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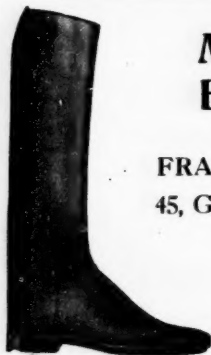
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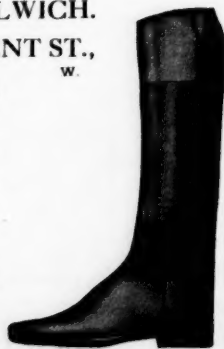
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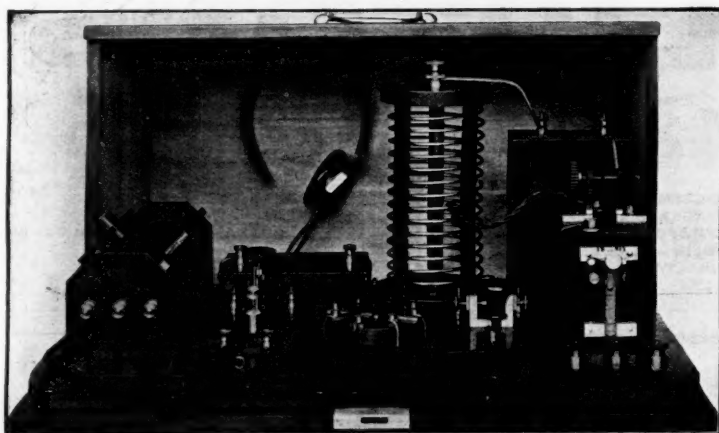
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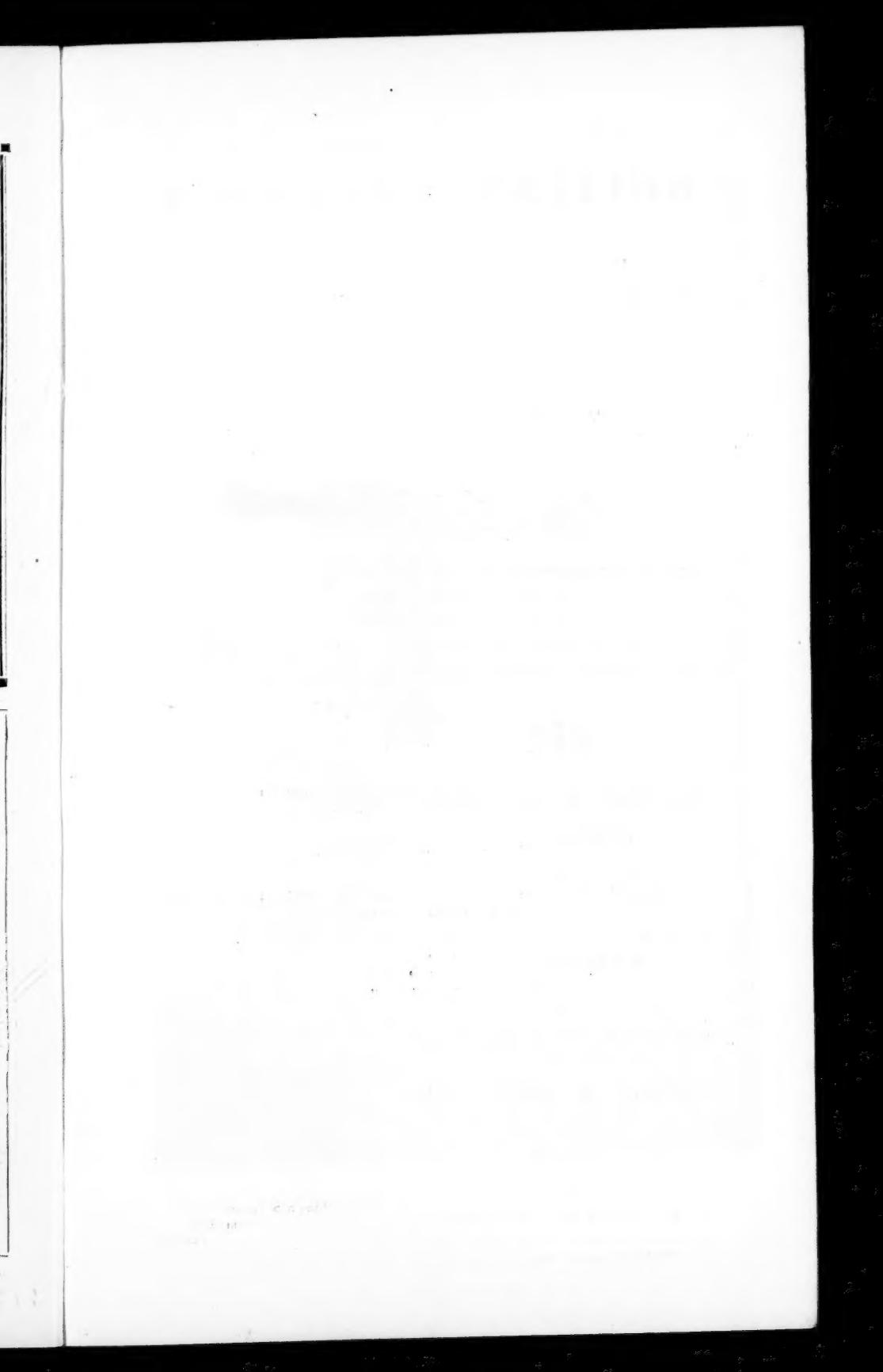
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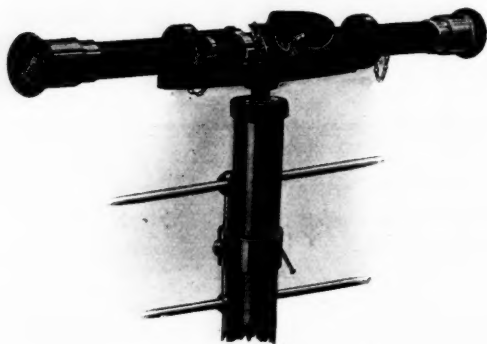
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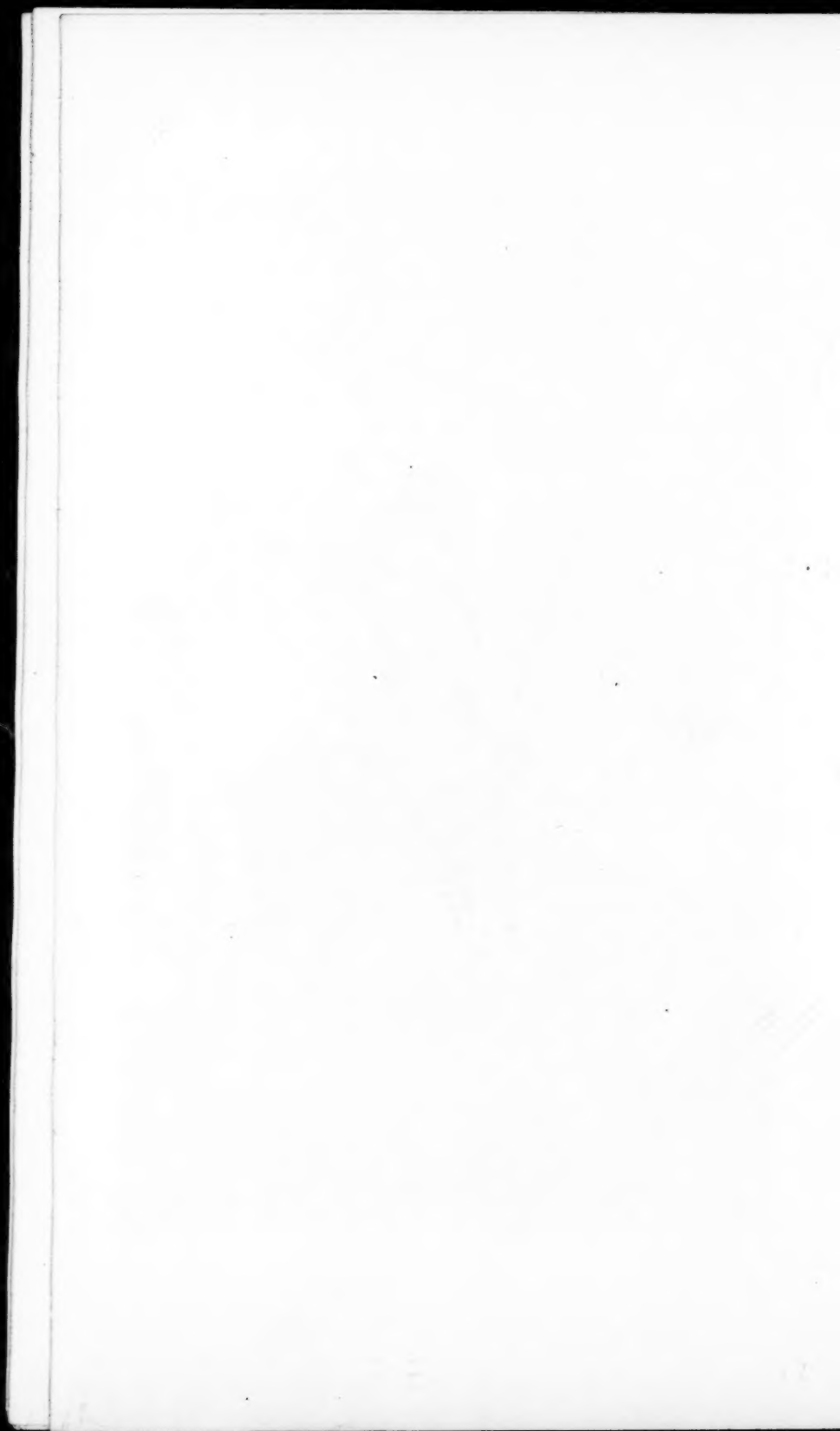
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ROYAL UNITED SERVICE INSTITUTION

JANUARY, 1912

SECRETARY'S NOTES.

I.—OFFICERS JOINED.

The following officers joined the Institution during the month of December, 1911, viz. :—

Commander A. D. Douglas, R.N. (retired).
 Lieutenant C. E. D. Bridge, R.H.A.
 Captain E. C. Talbot, 47th Sikhs.
 Lieutenant-Colonel J. H. Mitchell, Canadian Field Artillery.
 F. J. Terry, Esq., late Lieutenant 3rd V.B. East Surrey Regiment.
 Major F. L. Petre, late Indian Volunteers.
 Captain A. A. Caddick, 8th Bn. Royal Warwickshire Regiment.
 Lieutenant J. R. Dodington, R.N. (retired).
 Captain E. T. Humphreys, Lancashire Fusiliers.
 Colonel C. T. Dawkins, C.M.G., A.Q.M.G., Eastern Command.
 Midshipman A. H. C. Barlow, R.N.
 Lieutenant M. Graham, 16th Lancers.
 Major W. F. Walter, late Lancashire Fusiliers.
 Lieutenant G. A. Campbell, Coldstream Guards.
 Lieutenant L. Wright, H.A.C.
 Lieutenant K. R. G. Fenwick, Royal Horse Guards.
 Lieutenant C. J. Elkan, Royal Irish Fusiliers.
 Captain W. P. A. Hattersley-Smith, R.G.A.
 Lieutenant F. M. Davenport, Oxfordshire and Buckinghamshire
 [Light Infantry].
 Lieutenant H. E. de Trafford, Coldstream Guards.
 Captain A. H. Moberly, R.G.A.
 Captain P. L. W. Powell, Welsh Regiment.
 Lieutenant D. L. B. Lloyd, 5th Gurkha Rifles.
 Major S. D. Bullen, R.A.
 Lieutenant O. J. F. Fooks, 14th Hussars.

II. INCREASE OF MEMBERSHIP.

The Council have pleasure in reporting that during the past year 261 officers joined the Institution (against 295 in 1910).

There were 130 withdrawals and 93 deaths (of whom 31 were life members), making an increase of 38 on the year.

The details of members joining were :—

Regular Army	...	...	...	...	168
Royal Navy	...	...	...	...	34
Territorial Force	...	...	...	...	33
Special Reserve	...	...	...	...	12
Indian and Colonial Volunteers	...	...	...	...	7
Royal Marines	...	...	...	...	4
Royal Naval Reserve	...	...	...	...	3
					261

The total number of members of the Institution on January 1st was 5,648. It is hoped that members will not relax their energies in introducing new members: a pink form is placed in every JOURNAL with this special object.

III.—MUSEUM PURCHASE FUND.

This Fund has been formed for the purpose of purchasing suitable exhibits which are from time to time offered to the Museum.

Subscriptions already acknowledged £11 6s. od.

Recently the Regimental Colours of 2nd New Hampshire Regiment, U.S.A., which were captured by the 9th Foot in 1777, in the American War of Independence, might have been acquired had funds been available; they are now on offer to the State of New Hampshire, U.S.A.; also the collection of Arms, Accoutrements, Old Regimental Uniforms, etc., formed by the late Mr. Ernest Crofts, R.A., were sold at Christie's, many of which articles would have been most suitable for exhibiting in the Museum.

IV.—ADDITIONS TO THE MUSEUM.

- (6387). Frame containing 9 Coloured Prints of the 30th Regiment of Foot, from water-colour paintings by P. W. Reynolds.—Given by Major G. H. Laurence, East Lancashire Regiment.
- (6388 & 6389). Two Aquatints from etchings by H. Moses of paintings by J. N. Wright and published in 1814, entitled (1) "The Victory of Vittoria" (fought June 21st, 1813). (2) "Battle of the Pyrenees, representing the grand contest on July 28th, 1813."—Given by Miss E. Low-Aston.
- (6390 to 6392). The following Commemorative Medals:—
- (1) A Bronze Medal, on the obverse the Head of the Duke of Wellington; on the reverse the names of the victories during the Peninsula War.
 - (2) A Bronze Medal, on the obverse the Head of Earl Spencer, 1st Lord of the Admiralty, 1795; on the reverse Figure of Victory, with the following inscription, "Under wise Councils the British Navy triumphs."
 - (3) A Bronze Medal to commemorate the surrender of Guadeloupe, 1759.
 - (4) A Bronze Token, on the obverse the Head of Nelson, and on the reverse a line-of-battleship in full sail, with the words "British Halfpenny" dated 1812.
 - (5) A Bronze Medal bearing the Head of the Hon. Augustus Keppel, Admiral of the Blue.
 - (6) A Bronze Medal in commemoration of the Peace of 1814.
 - (7) Two Bronze Tokens bearing the Head of Admiral Lord Howe to commemorate the glorious victory of June 1st, 1794.
 - (8) A Bronze Token to commemorate Wellington's victories in the Peninsula; on the reverse is a Cossack.
 - (9) A Bronze Medal to commemorate Admiral Sir John Jervis' defeat of the Spanish Fleet, February 14th, 1797.—Given by Lieutenant-Colonel A. B. Cottell.

- (6393). A Light Dragoon Sword with Scabbard of the period of the Peninsula War.—Given by Lieutenant-Colonel A. Leetham, Curator.
- (6394). A heavy Dragoon Sword with Scabbard of the period of the Peninsula War. It has a straight blade.—Given by Lieutenant-Colonel A. Leetham, Curator.
- (6395). An Officer's Light Dragoon Sword of about 1795, with brass bound Scabbard. On the hilt is the badge of the Prince of Wales, and the following inscription, "XXX Light Dragoons or Princess of Wales." The 30th Light Dragoons were raised and commanded by Lieut.-Colonel Blackwood in 1794, and were disbanded a few years afterwards.—Given by Lieutenant-Colonel A. Leetham, Curator.
- (6396). A General Officer's Sword and Scabbard of the period of about 1800.—Given by Lieutenant-Colonel A. Leetham, Curator.
- (6397). Full-dress Lancer Cap of the 17th Lancers, bearing the Monogram of King William IV., the date being about 1830.—Given by Lieutenant-Colonel A. Leetham, Curator.
- (6398). Embroidered full-dress Sabretasche of the 7th Hussars, George IV. period.—Given by Lieutenant-Colonel A. Leetham, Curator.
- (6399). Embroidered full-dress Sabretasche of the 15th Hussars of about 1820.—Given by Lieutenant-Colonel A. Leetham, Curator.
- (6400). A French Grenadier's bear-skin Cap of the period of the 1st Empire.—Given by Lieutenant-Colonel A. Leetham, Curator.
- (6401). A French Grenadier's Pouch and Belt with Bayonet Scabbard and Frog, of the period of the 1st Empire.—Given by Lieutenant-Colonel A. Leetham, Curator.
- (6402). A French Light Infantry Pouch and Belt of the period of the 1st Empire.—Given by Lieutenant-Colonel A. Leetham, Curator.
- (6403 & 6404). Two French Cavalry Officers' Pouches and Belts of the period of the 1st Empire.—Given by Lieutenant-Colonel A. Leetham, Curator.
- (6405). An Officer's Military Saddle of the early 17th century (English).—Given by Lieutenant-Colonel A. Leetham, Curator.
- (3371). Coattee of the East Kent Militia, 1850, lent by Major H. D. Hirst, 3rd Bn. The Buffs.
- (3372). A Basket-hilted Scottish Broad-sword with leather Scabbard. The blade has 3 grooves in it and is marked "Andrea Ferrara." It was presented to Chief Scout Sir Robert Baden-Powell, K.C.B., K.C.V.O., as a token of respect by the Boy Scouts' Committee of Perth, on March 22nd, 1910.—Lent by Lieut.-General Sir R. S. S. Baden-Powell, K.C.B., K.C.V.O.

V.—HON. EAST INDIAN COMPANY.

The Museum Committee would be greatly obliged if some member would present an officer's commission in the above service for exhibition in the museum, as the Institution does not possess one.

PRINCIPAL ADDITIONS TO LIBRARY

December, 1911.

- A Most Complete Collection of the Most Remarkable Voyages and Travels** to all the Various Parts of the World which have been undertaken and accomplished by British Navigators and Travellers, including particularly all those performed in the Reign of His Present Britannic Majesty, George III., together with some Journals translated from the French. By W. H. Portlock. fc. fol. (Presented). n.p. circa 1790.
- Handbook of Meat Inspection.** By Dr. Robert Ostertag. Authorized translation by E. V. Wilcox. Imp. 8vo. 31s. 6d. (William R. Jenkins). New York, 1907.
- Gaza's *Traité des Armes*, 1678.** Edited by Charles Ffoulkes, with a preface by Viscount Dillon. Crown 8vo. 5s. (Presented). (The Clarendon Press). Oxford, 1911.
- The Art of Command.** By Colonel von Spohn. Translated by the General Staff, War Office. 8vo. (Presented.) (Harrison & Sons.) London, 1908.
- The Literature of the Russo-Japanese War.** By a British Officer. 8vo. (Presented.) (American Historical Review.) London, 1911.
- Naval Battles, from the Collection of Prints formed and owned by Commander Sir Charles Leopold Cust, K.C.V.O., C.B., C.M.G., C.I.E., R.N.** The Chronological arrangement of the prints with descriptive and historical notes by Harry Parker. Small 4to. Illustrated. (Presented.) (T. H. Parker.) London, 1911.
- The Making of Northern Nigeria.** By Captain C. W. Y. Orr. 8vo. 8s. 6d. (Macmillan & Co., Ltd.) London, 1911.
- The New North—Being some account of a woman's journey through Canada to the Arctic.** By Agnes Deans Cameron. 8vo. 10s. 6d. Illustrated. (D. Appleton & Co.) New York & London, 1910.
- Territorial Force—Handbook to Promotion Examinations and Local Courses of Musketry.** By Captain W. D. Allan. 12mo. 2s. (Oliver & Boyd.) Edinburgh & London, 1911.
- The History of the Royal Artillery (Crimean Period).** By Colonel Julian R. J. Jocelyn. 8vo. 21s. Illustrated. (Presented.) (John Murray.) London, 1911.
- Twenty-five Years in the Secret Service.** By Major H. Le Caron. Crown 8vo. 2s. 6d. (Presented.) (William Heinemann.) London, 1893.
- Catalogue of the Armour, Weapons, Uniforms, Portraits, Prints, and other objects of interest in the Armoury House of the Honourable Artillery Company of London.** Compiled by C. O. Skilbeck, H. R. Hale, and R. H. E. Hall. 8vo. (Presented.) London, 1911.
- Grahame of Claverhouse, Viscount Dundee.** By Michael Barrington. Imp. 8vo. Illustrated. (Presented.) (Martin Secker.) London, 1911.
- Scheme and Orders for the Military Arrangements at Delhi in connection with the Coronation Durbar of their Imperial Majesties the King-Emperor and the Queen-Empress, December, 1911.** Official. Crown 8vo. (Presented.) (Superintendent Government Printing.) Calcutta, 1911.
- The Principles of Sanitary Tactics—A Handbook on the Use of Medical Department Detachments and Organizations in Campaign.** By Major E. L. Munson, U.S.A. Crown 8vo. 8s. (Presented.) (U.S. Cavalry Association.) Fort Leavenworth, 1911.

THE JOURNAL

OF THE

ROYAL UNITED SERVICE INSTITUTION.

VOL. LVI.

JANUARY, 1912.

No. 407.

[Authors alone are responsible for the contents of their respective Papers.]

THE CORONATION DURBAR AT DELHI.

AMID scenes of extraordinary splendour, and imposing pageantry, the long-looked-forward-to great Coronation Durbar was held at Delhi on the 12th December. It has been a magnificent and supreme success. Whether regarded merely as a superb spectacle, or whether taken as—what it really was—a great manifestation of Imperial Dominion, it has been a triumphant expression of pride and promise, on the one hand—pride in what has already been accomplished, and promise of benevolent developments in the future—and on the other hand, of earnest solicitude for the best interests of India, and of paternal protection for her teeming, toiling millions.

It was well understood that this epoch-making occasion would be signalized by some gracious proclamation of boons, concessions, grants, &c.; but few were prepared for the dramatic and momentous announcement, made by the King-Emperor himself, that from this time forth Delhi, instead of Calcutta, should be the Capital City of the Indian Empire, and the seat of the Government; and that the recently partitioned province of Bengal should be again geographically re-arranged, and administratively re-constituted.

In a long Despatch, dated 25th August, 1911, from the Government of India, to the Secretary of State for India, the considerations are set forth at length on which the recommendation of the changes above stated was made and accepted. The reasons advanced are mainly of an administrative character. It is pointed out that the considerations explaining the choice of Calcutta as a Capital in the 18th century had long since passed away with the consolidation of British Rule in India: but that although removal to Delhi had been considered so long ago as 1868, nothing had been done until two recent developments had again forced the question to the front:

- (a) The almost incalculable importance which the Imperial Legislative Council is bound to assume under the Indian Councils' Act of 1909.

- (b) The peculiar political situation which has arisen in Bengal since the partition.

The Despatch has been published in all the papers, and copies of it (3d. each) can be obtained from the Government printers, or through any bookseller.

It goes without saying that many conflicting interests must be affected by the far-reaching decisions now made, and it cannot be expected that they will escape comment and criticism by the numerous persons and communities whom they nearly concern. It is not, however, necessary or expedient to touch on these matters here, but it is permissible to anticipate that the transfer of the Capital to Delhi will be very generally approved. On every ground—historical, political, and administrative—the change must be most welcome, and it will surely contribute to vigorous efficiency in every department of the Government.

Two sketch maps are appended, one showing the central position of Delhi in comparison with Calcutta; and the other, the geographical and administrative re-arrangement of Bengal and Assam.

The following is a summary of the announcements made in Durbar by the Governor-General of India, on behalf of H.M. the King-Emperor:

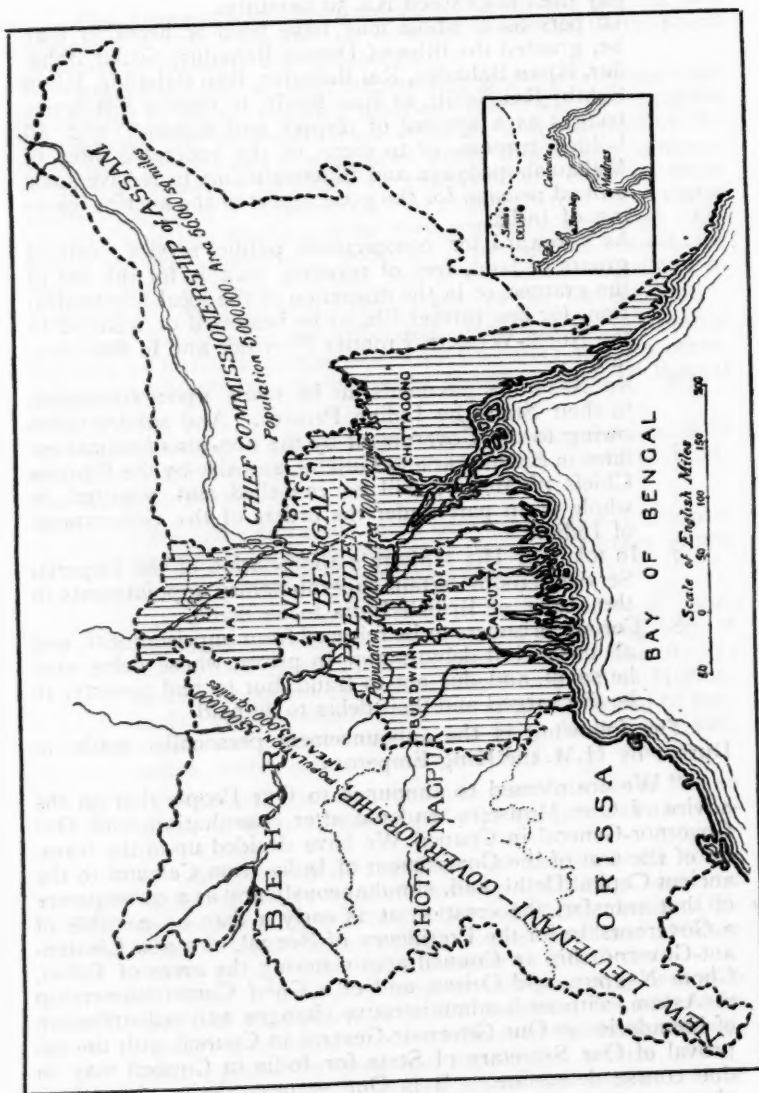
1. Fifty lakhs of rupees to be devoted at once to the promotion of truly popular education; and further grants in future years on a generous scale.
2. Half a month's pay of rank to be granted to all non-commissioned officers and men and reservists, both of the British Army in India, and of the Indian Army; and to the equivalent ranks of the Royal Indian Marine; and to all permanent employées of departmental or non-combatant establishments, paid from the military estimates, whose pay may not exceed Rs. 50 monthly.
3.
 - a. Native officers and men and reservists of the Indian Army to be in future eligible for the grant of the Victoria Cross.
 - b. Membership of the Order of British India to be increased by 52 appointments in the First Class, and by 100 appointments in the Second Class. Indian Officers of the Frontier Militia Corps, and the Military Police to be eligible for admission to this Order.
 - c. Special grants of land, or assignments, or remissions of land revenue, as the case may be, to be now conferred on certain Native officers of the Indian Army, distinguished for long and honourable service.
 - d. The special allowances which the widows of the deceased members of the Indian Order of Merit at present receive for 3 years only, to be from this time continued to all such widows until death or re-marriage.

- e. Half a month's pay to be granted to all permanent servants in the Civil employ of the Government, whose pay does not exceed Rs. 50 monthly.
4. All persons to whom may have been or hereafter may be, granted the titles of Dewan Bahadur, Sirdar Bahadur, Khan Bahadur, Rai Bahadur, Rao Bahadur, Khan Sahib, Rai Sahib, or Rao Sahib, to receive distinctive badges as a symbol of respect and honour; and all holders present, or to come, of the venerable titles of Mahamahopadyaya and Shamsululama to receive some annual pension for the good report of the ancient learning of India.
5. As a reward for conspicuous public service, certain grants of land, free of revenue, tenable for the life of the grantee, or in the discretion of the local administration, for one further life, to be bestowed or restored in the North-Western Frontier Province and in Baluchistan.
6. No Nazarana payments to be made upon succession to their States by Indian Princes. And sundry debts owing to the Government by the non-jurisdictional estates in Kathiawar and Gujerat, and also by the Bhumia Chiefs of Mewar, will be cancelled and remitted in whole or in part under the orders of the Government of India.
7. In token of His Majesty's appreciation of the Imperial Service Troops certain supernumerary appointments in the Order of British India to be made.
8. Certain prisoners to be released from imprisonment, and all those civil debtors now in prison whose debts may be small, and due not to fraud, but to real poverty, to be discharged and their debts to be paid.

The following is the announcement personally made in Durbar by H.M. the King-Emperor :

"We are pleased to announce to Our People that on the advice of Our Ministers tendered after consultation with Our Governor-General in Council We have decided upon the transfer of the seat of the Government of India from Calcutta to the ancient Capital Delhi, and, simultaneously and as a consequence of that transfer, the creation at as early a date as possible of a Governorship for the Presidency of Bengal, of a new Lieutenant-Governorship in Council administering the areas of Behar, Chota Nagpur, and Orissa, and of a Chief Commissionership of Assam, with such administrative changes and redistribution of boundaries as Our Governor-General in Council with the approval of Our Secretary of State for India in Council may in due course determine. It is Our earnest desire that these changes may conduce to the better administration of India and the greater prosperity and happiness of Our beloved People."

H.D.H.



THE SUPPLY OF A DIVISION IN THE FIELD, WITH SPECIAL REFERENCE TO THE USE OF MECHANICAL TRANSPORT.

By CAPTAIN SIR T. A. A. M. CUNINGHAME, BART., D.S.O., Rifle
Brigade.

On Wednesday, December 13th, 1911.

Lieutenant-General Sir A. H. PAGET, K.C.B., K.C.V.O., in the
chair.

[See plates pages 24, 25, 26.]

The Nature of the Situation.

THE difficulties in administration, and especially in supply, with which the British Army is initially confronted, are accentuated by the impossibility of foreseeing the exact function which it may be called upon to fulfil.

Great continental Powers like France and Germany faced by a single problem can legislate accordingly. It is not so with us, unfortunately.

We have to consider many alternatives and to make suitable preparations in anticipation for such varied conditions, that the evolution of plans sufficiently definite for general understanding, and sufficiently elastic for changing circumstances, is a problem hard to solve. Indeed, frequently there is no solution—the conditions in one case being exactly the opposite to those in others.

Particularly is this so in the case of "Small Wars," as opposed to continental wars. Between pure "Scally-wagging" and the "pukka" civilized affair. The difference is not confined to the province of administration, for there is action and reaction between the methods of war and means of administering to it, but I am concerned solely with administration and not with strategy or tactics.

Still we have to consider three alternative forms of warfare:—

1. Action against semi-civilized foes or savages.
2. Action against European foes, by our forces alone.
3. Action in combination with a continental ally.

The third alternative is that which is in my mind now. It is the notion to which I refer such recommendations as occur to me, for it is that which will involve the hardest conditions, and if the system involved satisfies the hardest conditions, it may be modified to suit others less exigent. Is it then admitted that we may have to take our part actually in line with an ally, as the Saxons took their part in 1866, and the Bavarians in 1870? We require a definite answer.

For, if we act so with an ally we must do what that ally does.

What then is the range of continental eventuality?

It is not limited to warfare by forces no greater than our own Expeditionary Army, or to battles in which the decision may be gained by tactical action only, but must extend to those in which immense forces are deployed on either side, and in which, in consequence, victory is dependent on strategical conceptions, conditions and skill.

Considerations of this nature must have a profound influence upon the selection of methods of supply, and systems which have stood the test of enterprises on a minor scale may fail wofully when subjected to conditions in which congestion will be the rule and not the exception.

The Relation between Numbers, Frontage, and Depth.

The deployment of great forces being in essence a problem in road space, it is desirable to arrive at some general notion concerning the relationship between numbers, frontage and depth.

If the numbers at disposal are so great that they exceed the maximum for which tactical accommodation can be found along the line of contact, the latter determines the allotment of rifles to frontage whose total should not exceed that which can be usefully employed.

As a matter of fact we know that the numbers which can be concentrated in the early stages of a great war by a first-class Power, are greater than those which can be accommodated with effect in any one area of operations.

The possibility of accommodating such as can be employed tactically with effect depends upon the frequency of independent roads leading in the required direction, and upon the length of road space required by marching columns with relation to impedimenta and establishment generally.

We have then three variants to consider, namely:—

1. The maximum number of men per yard of front which can be usefully employed.
2. The average interval between independent roads.
3. The greatest distance at which troops must be in order to reach the firing line in time to be of use.

The First Consideration: Effective Tactical Distribution.

The first consideration is determined by the object in view, that is to say, it will vary according to the nature of the plan, whether it is offensive; defensive, with a view to the resumption of the offensive; or purely defensive. It will vary according as the force dealt with is in the centre, or on the flank of the general line, and it will then vary according as the plan of operations aims at envelopment—whether initially or subsequent to contact—or seeks a decision by means of the application of weight.

In those parts of the field where equal forces meet frontally and on equal terms the result must approximate the answer to the riddle, "What happens when an irresistible force meets an immovable object?" and the nearest average to which we can reach in our estimate of normal allotment must be that which ensures potentially an "immovable object," and this may be reasonably taken at 3 rifles per yard of front, that is to say, about 4,000 yards or $2\frac{1}{2}$ miles to the division.

It is very important to learn whether this estimate is accepted as a normal one or not, for it is the governing factor.

The Second Consideration: The Number of Independent Roads.

The second consideration clearly depends upon the area chosen. It is reasonable to assume that the original line of approach in continental countries will be well provided with roads, because the goal will be the hostile capital, even though the immediate objective be the hostile army. But should strategic necessity involve action at right angles to this general line, whether permanently or temporarily, the infrequency of roads might become an embarrassment, if not a positive difficulty. Empirical methods, *i.e.*, simple tests over average countries, point to a general interval of not less than 5 miles between independent roads.

Comparing the first consideration with the second, it would appear that normally two divisions must be deployed between each pair of roads. This involves admission of a fact of great significance as regards supply, namely, that not only in cases in which great depth is required for wide strategical flanking movements, but also along the line of general advance, two divisions on every independent road are necessary for the development of adequate force; and the second division must follow the first closely.

The Third Consideration: Road Space.

For purposes of illustration I have had copied for you a diagram of the march of the three German armies in 1870,¹ from which it will be seen that eight roads were used by the columns, that the maximum frontage, about midway, was 65 kilometres or an average interval of 8 kilometres, and the minimum about 50 kilometres or an average interval of 6 kilometres.

It will be obvious that if a line of deployment be selected arbitrarily at any stage of the march, intervening roads, though not available for purposes of approach, become available for purposes of deployment, and this fact must not be lost sight of.

None the less, as regards the depth of marching columns, a modern division with its trains, but without its supply columns, takes up eleven miles of road, so that two divisions on one road without interval between them, represent the maximum force that can be deployed in one day.

¹ Diagram not reproduced.—Ed.

The Foregoing Factors Determine the Minimum Situation.

The system of supply adopted must therefore be capable of dealing with such a situation as that indicated above as a minimum, but the maximum, and indeed the normal, may be even more complex. To support the two first-line divisions along the whole front, a third division may be brought up in rear, from which to replace troops exhausted or shaken by the events of the action. Such divisions cannot hope to arrive within reach of those they support until the day following deployment for action.

And in cases where envelopment from a general zone of assembly is contemplated, the enveloping wing must be marshalled initially in echelon on a flank in still greater depth: possibly as much as five or six divisions on one road.

The Influence of the Railways, and the New System Adopted.

The difficulties attending the feeding of a large army under such conditions are dependent upon the numbers and direction of the railways: and the system of supply must be such as to allow full advantage to be taken of any chance proximity to a railway, and also to bridge any reasonable interval which may separate a unit from it.

It is principally to meet the latter difficulty that recourse has been had to mechanical transport. Instead of a divisional transport and supply column and a slow moving mechanical park, each division is now to have a single fleet of 27 fast moving lorries, of three tons carrying capacity each, and, to convey supplies from the lorries to the troops, a train of 55 horse-drawn waggons of 30 cwt. capacity each.

The full detail of the procedure to be adopted is laid down in War Establishments for Transport and Supply units and in the explanatory Memorandum preceding the tables with which everybody here is no doubt familiar. The new system is, without doubt, a great improvement, but the change involves many sub-changes in detail of application, and, in view of the complex conditions referred to above, requires the elaboration of some comprehensive but simple system for its adaptation.

Factors relating to details of distribution on the march.

There are some considerations concerning the distribution of the various units which compose a division which require analysis.—The problem differs—

1. When approaching the enemy.
2. When contact is hourly expected.
3. When contact is gained.
4. When retreating.

When approaching the enemy, contact not being immediately expected, troops will probably march with their baggage waggons, and possibly their supply waggons, distributed by

groups along the column to save fatigue to the transport animals. At night they will be billeted, with or without subsistence, as the case may be.

When contact is immediately expected troops must march "cleared for action," *i.e.*, with all impedimenta that can be spared behind the fighting troops. At night they will be close billeted with, or without, subsistence.

When contact is gained, progress will be delayed if not definitely stopped. Impedimenta will be parked in rear, and troops will probably bivouac at night, or at least a great number of them will have to do so.

When retreating, impedimenta must be sent on ahead out of the way, and the difficulty of doing so, when two divisions are retreating along the same road, will be great.

A division at war strength, approximating 18,000 mouths and 6,000 horses, is divided as regards road space as follows:—

The fighting troops, with first line transport only, require a road space of 7 miles.

The baggage section of the train, exclusive of that allotted to the field companies and field ambulances which accompany their units, requires another mile.

The supply section of the train requires $\frac{3}{4}$ mile.

The brigade ammunition columns require $2\frac{1}{2}$ miles.

It is probable that some changes may be made in the composition of these latter units. The 30 general service waggons conveying gun and rifle ammunition may be superseded by mechanically driven vehicles. But the discussion of the pros and cons of such a change is outside the scope of this lecture, for the purpose of which, the organization of such columns is assumed to be according to present War Establishments.

Procedure on halting.

Considering first the case of a march during the approach, and assuming an army of nine divisions operating on three roads, it is possible that there may be on any one road no higher representative of the Quartermaster-General's Department than the divisional A.Q.M.G., or in other words, that for administrative purposes divisions may be independent, since we do not adopt the army corps system, and Head Quarters will be charged with the command of all nine divisions, and there may then be no special co-ordinating authority for administration for the force on any one road.¹

I am aware, of course, that we have at present only six expeditionary divisions, but the other three may be colonial divisions, or divisions of an ally.

¹ Since I have been taken to task for this statement, I would explain that no more is intended than to emphasize the necessity for the Administrative Staffs of each Division working in close co-operation.—T.C.

Under such conditions the army might be halted as follows:—

1. By order of the Generalissimo at points dictated by circumstance, whether due to the action of the enemy or not.
2. On reaching a stage in a prearranged itinerary.

It is clear that for a force of the size herein considered, it is most desirable to adopt the second method whenever possible, since billeting will be unavoidable: and in any case, if the leading division required special treatment in this connection, rearward divisions should march to points previously determined. If for any reason it is not possible to do so, the decision to halt must be arrived at early in the day—not later than mid-day, if avoidable, so that administrative staff officers may have time to go on ahead and select billets and bivouacs, which should be ahead of the troops detailed to occupy them, so that counter marching is obviated.

On the decision to halt at a particular point, A.Q.M.G.'s of divisions would immediately consider the definition of the billeting area, divide it into three brigade areas, and allot the divisional troops to each. This would be done in conjunction with brigade administrative staff officers; and "divisional road refilling points," and, if necessary, "brigade road refilling points," would be selected and made known to them. Brigade administrative staff officers would then allot billets to troops, who would be marched up to them.

One word is necessary here as regards the billeting area and its division into brigade areas. I find a disposition to assume that all troops will be closed up and billeted in some large town. Efforts will certainly be made to do so, but how often will such a plan be possible? If all roads are crammed to their utmost capacity some divisions will find themselves out in the cold! Anyway, as far as fatigue is concerned, the closing up of the night must be rectified by re-deployment next morning, so that one day's march is only shortened at the expense of another. The marching depth determines the available area, and all shelter within that area must be made of use.

Consider this example. A division on the march to Dublin halts when the leading brigade gets to Naas. The towns are as follows:—Kildare (1,500 inhabitants), will accommodate one brigade. Four miles on is Newbridge (3,000 inhabitants), will accommodate one brigade and a proportion of divisional troops. Seven miles on is Naas (4,000 inhabitants), will accommodate the rest of the division.

If all came up to Naas some would have to bivouac!

The Location of Road Refilling Points, where Divisions are disposed in Depth.—Refilling next Morning.

But if the division is so distributed where will the "road refilling point" be? and should there, in such a case, be one point only?

The location of "road refilling points," in fact, involves an interesting problem.

There would appear to be two main alternative systems, namely:—

1. Refilling overnight.
2. Refilling next morning.

And in either case the "road refilling points" might take any of the following forms:—

1. A single "divisional road refilling point" at the head of the division.
2. A single "divisional road refilling point" at the tail of the division.
3. A single "divisional road refilling point" on the railway, either at the head, centre or tail of the division.
4. Three "brigade road refilling points" in the centre of the brigade areas.
5. Three "brigade road refilling points" on the railway at convenient points in or near the brigade areas.
6. Or a combination of the two preceding.

At present the second method of refilling is nominated as the normal procedure. The principal reason for adopting it appears to be a desire to avoid issuing supplies at night, and for this purpose it is anticipated that mechanical transport vehicles will fill from rail-head early in the morning, and arrive at the rendezvous at about 9 or 10 a.m. It is apparently contemplated that the marching troops should have cleared the divisional billeting area before either the supply columns or the supply waggons move up to the road refilling point, which in this case would be at the head of the billeting area, in order to save any retrograde movement by the supply waggons.

At present no detail of the procedure has been laid down, but the following appear to be the alternative methods:—

1. Supply waggons may be concentrated at the "divisional road refilling points" from billets or bivouacs direct.
2. Or from a collecting station at which they may be assembled overnight, or the same morning.
3. And they may precede or follow the supply column to the "road refilling point."

In any case it is not clear what will happen to the troops of the succeeding division if this plan is adopted.

Assume that the morning's march for both divisions is to start at 6 a.m., the second division must either wait till the waggons of the first division are filled or must precede them.

The first alternative in an approach is really unthinkable, there must be no interval. The second will delay the process of filling, and assuredly delay the eventual process of issue at night. For the supply waggons of the first division will start

late in the day and as they near the billeting area of the troops they serve, will have to pass through the troops of the division in rear, who will probably be actually engaged in the process of taking up billets.

The Difficulty of transferring Loads direct from Lorry to Waggon, on the Road itself, if one Road Refilling Point only is used.

It is understood that direct issue from lorry to waggon is to be attempted on the road itself, but this idea seems also to involve grave difficulties. If one road refilling point is chosen there will be 55 waggons filling from 27 lorries, and it must be remembered that stores will be carried by lorries according to their nature, *i.e.*, one lorry will carry oats, one bread, one groceries, and so on. Then if the supply waggons are to be similarly loaded, *i.e.*, an oats waggon, a grocery waggon, etc., the eventual difficulty of issue to the troops in scattered bivouacs will be increased, and the horses put to extra exertion by the necessity of proceeding from unit to unit. If supply waggons are to pick up mixed loads, each waggon must make a series of visits from lorry to lorry with evident increase to the complexity and length of time to load.

Doubtless, whatever system is adopted, where special horsed waggons are required for direct issue of fresh bread and fresh meat, these will have to be brigade or area waggons, and cannot be affiliated to individual units. But at present this contingency has not been legislated for.

It would apparently mean the transfer of one special waggon for one existing waggon per 1,000 men. Thus, for an infantry brigade, 4 unit waggons would carry groceries and oats; 2 brigade waggons would carry fresh meat; and 2 brigade waggons would carry fresh bread; instead of 4 unit groups of 2 waggons each carrying mixed loads.

Congestion Eased by Use of three "Brigade Refilling Points."

The use of 3 "brigade refilling points" will certainly tend to decrease the chances of confusion, for the road space of 55 four-horsed general service waggons is one thousand yards, and the length of the lorries themselves must be taken into consideration; but, even so, the marshalling and extrication of the waggons from the lorries will be a delicate affair, taking considerable time, and causing exertion to the horses.

Meanwhile, the first division followed by the second will be marching on, and will have obtained a start possibly as great as 4 or 5 hours, or 12 to 15 miles of road space, involving a march after 11 a.m. of 20 miles for the waggons of the leading unit.

Moreover, during the approach, a divisional commander may prefer to have his supply waggons filled overnight, if this can be done, both because he will know that he has two complete days' food besides the iron ration and the emergency food—and therefore has corresponding liberty in the formation of

such self contained detachments as may be required—, and also because he will know where his supply column is, and how it is being marched and controlled.

This latter point is worthy of some consideration. If baggage sections and supply sections march in independent columns the number of officers who control them is multiplied and the arrangements for horse-mastership and for road discipline are complicated.

And if the system does not seem suitable for the normal case of two divisions marching on one road without interval, still less does it appear to cater for the contingency of three divisions on one road. Suppose for example that the railway were destroyed by a retreating enemy, it would then be necessary for the supply columns to pass up the road occupied by two divisions to reach the rear of the leading division, and they then could only do so at night unless there were parallel roads available, which might not be the case.

And even if it were the case, it is natural to suppose that the good roads would be occupied by troops, and the intervening roads by which the supply columns might hope to dodge past from point to point might be singularly ill adapted for the use of mechanical vehicles.

Under any such conditions it is obvious that filling the next morning would be impossible.

Filling overnight. Three Brigade Points will be normal.

Discussing now the alternative of filling overnight, we may take it for granted that "brigade road refilling points" will be selected at road junctions, or other places where facilities exist for the lorries to turn round. Assume that troops had reached their billets at 5 p.m., that issue by supply waggons took place at 6 p.m., and that the same waggons had returned to the "brigade refilling point" at 7 p.m. Whether the supply columns had arrived or not they would immediately park in a field alongside and bivouac there for the night, the horses on horse lines—the men under tarpaulins.

Assume that the lorries arrived at 8 p.m. and that the officer in charge of them immediately informed the responsible transport or supply officer (whichever it might be) representing the brigade area, what he had brought, the latter checking it by what he required. The engines would then off-load into the fields, stores being grouped into piles of biscuit, oats, groceries, etc., the loading parties being found from the drivers and attendants of the supply waggons. The issue would then proceed from pile to pile, each unit receiving its share of the particular stores dealt with in order.

If fresh bread and meat required special treatment it should not be difficult to arrange that in this case direct issue was made from lorries to waggons on the road, or near the entrance of the field, and as such waggons would not be unit waggons the difficulty of proportional distribution would not arise. If

the night was dark, flares could be used. The horses of the waggons could remain on the lines, and the waggons filled and loaded would then be ready to fall into their places in the column next day according to the march table issued with operation orders; and as they would probably be joined by the baggage sections, the companies of the train could move off complete. As soon as off-loading was completed the engines would back down to turn, and then proceed to the next railhead, arriving there about midnight and remaining there till the next day's supplies arrived in the afternoon.

The requirements of each brigade area would, of course, depend upon the units within it, and upon the proportion of those units which were or were not billeted with subsistence. This would be ascertained by the supply officers of the train, and the necessary division of the supply column would have to be made by the divisional staff officer who met the supply column at the "road rendezvous," who should be in possession of this information, before he sent the lorries to the "brigade refilling points."

Movement of Supply Columns may often have to be at Night.

Reflection concerning the itineraries of the supply columns themselves will indicate that occasions will arise in which it will be necessary for mechanical fleets to move forward to new railheads along roads already occupied by troops, especially in the case of columns which supply rearward divisions. This, of course, involves movement at night. I give an example taken at random from a road and railway system in Belgium.

The following are given as examples of a day's work by supply columns under the two systems.

¹ (1.) FILLING NEXT MORNING.	(2.) FILLING OVERNIGHT.
Rest 11 a.m. to 8 p.m.	Proceed to new railhead 9 p.m.
Proceed to new railhead 8 p.m.	Arrive midnight.
Arrive midnight.	Rest midnight to 2 p.m. next day
Commence loading ... 4 a.m.	Commence loading at rail-
Proceed to road rendezvous 7 a.m.	head 2 p.m.
Proceed to road refilling	Proceed to road rendezvous 5 p.m.
point 10 a.m.	Arrive 6 p.m.
Finish offloading... .. 11 a.m.	Arrive road refilling point 8 p.m.
	Finish offloading 9 p.m.

¹ Under this scheme as outlined by Colonel Paul, the following should be substituted:—

A	B.
Proceed to new railhead..... 3 p.m.	..... 4 p.m.
Arrive..... 4 p.m.	..... 5 p.m.
Finish loading. Rest till 5 p.m.	..... 6 p.m.
Proceed to road rendezvous 11 a.m.	..... 11 a.m.
Arrive at road refilling point 2 p.m.	..... 3 p.m.
Finish off loading..... 3 p.m.	..... 4 p.m.

This, however, assumes that the heads of divisions halt at mid day, in which case the alternative method becomes as in B.—T.C.

The Procedure where Troops are Deployed for Action.

The procedure when troops are actually engaged will differ in detail but not in principle. It will probably be feasible to make use of more roads for supply of troops, since such roads need not be "through roads" in the sense that is required to be available as a route for approach.

In this case each division will require some point at which its supply lorries may be distributed according to the capacity of the areas served, but as the whole frontage for 2 divisions, and possibly 3, will only be five miles, there will be considerable congestion.

The "brigade points" will form a fan, radiating from the "divisional points," and the supply waggons will remain at the former, proceeding from unit to unit to issue and then return.

General Conclusions from the Foregoing.

It will thus be seen that it is not desirable that any hard and fast rules concerning this matter should be laid down, but it is desirable that the administrative staff should understand the pros and cons of each system. Probably more often than not, the mechanical columns can be entirely dispensed with, and supplies drawn direct from railhead, though in this case the mechanical convoys must not be allowed to drop too far behind.

All that can be said is that the morning system should be adopted whenever possible, but occasion will assuredly arise in which filling overnight will be unavoidable. If so, especially when supply columns have to move up a road in occupation of three divisions at once, very careful arrangements will be necessary to ensure that each stage is clear before fleets proceed into it, the great danger being the possibility of one fleet meeting another on a narrow road.

There might be some advantage in requiring the lorries to come to road rendezvous in the afternoon in any case, and giving the option of filling that night or next morning to the divisional general. That is, of course, if supply direct from railhead was not obviously more convenient.

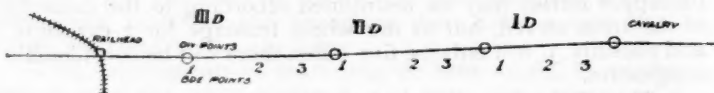
No doubt, in case of emergency, it will be necessary to lay hold of such local transport as there may be, to carry additional rations for units which for any reason cannot be fed by the usual system, and in any case such transport will probably be used, where available, for the carriage of firewood and hay, and for the conveyance of local supplies to collecting depôts.

Roads, therefore, cannot be kept entirely free from road transport up and down, even when the force is halted, but if the new system is to be applied with success, every effort must be made to do so.

The great advantage of the overnight system seems to me to be that it is the only system which is independent of the railway.

Provided the system is well understood it should be well within the capacity of our supply officers to cater for three divisions on one road.

Consider the following diagram, and assume that at 7 p.m. units are in their billets, supply waggon have issued and returned to "Brigade Refilling Points" and that stage IIID is clear.



The four fleets would proceed from railhead to point IID, the cavalry fleet leading, followed by those of the 1st, 2nd, and 3rd Divisions in that order.

On arrival at IID the fleet of the 3rd Division would halt.

On arrival at IID the fleets would not proceed into the 2nd Division area until the road was reported clear by the divisional transport officer of that division and so on. As each divisional fleet reached its divisional rendezvous it would be subdivided by the Divisional Transport Officer according to the requirements of the brigade areas; which would be indicated to him by the Divisional Supply Officer. These groups would occupy the "Brigade Refilling Points" 1, 2, and 3 accordingly.

When refilling was completed area transport officers would direct area lorry groups to return to the "Divisional Road Refilling Points," and the fleets would then proceed to the new railhead—wherever it might be—so as to clear the roads required for marching in time.

The "Brigade Area" System.

Turning for a moment from the question of supply to the occupation of brigade areas themselves, it is observed that although the term "brigade area" is generally understood and is actually referred to in Field Service Regulations, Part I, in a very general way, the system of distribution has never been worked out in detail. No doubt, purposely so; but it is thought that in the case of Field Divisions the instructions might go a little further than they do, and make it clear that as a rule there will be three "brigade areas" and only three, and that if so, a regular administrative staff for the area should be nominated and made known to all. It is most unlikely to occur that all the divisional troops will be in the same area, and therefore the head quarter company of the train is never likely to be intact. This is, of course, intended, and involves no difficulty, but it places the functions of co-ordination and of execution upon the senior representative of the train in the area concerned. As this will certainly be the officer commanding the company of the train affiliated to the infantry brigade occupying the area, it might as well be so recognized at once. It will be an advan-

tage, in fact, if the distribution of areas given in divisional orders on the decision to halt being published, means *ipso facto* the attachment for supply of the divisional troops in that area to the infantry brigade in it for that night. This means that the infantry brigade supply and transport officers of the train will have an area function as technical executive officers with a recognized status as such.

The Appointment of a Second Administrative Staff Officer to an Infantry Brigade requires to be revived.

It falls here to be observed that as a natural corollary the appointment of "Staff captain" for an infantry brigade requires to be revived. The area occupied by a division when billeted in depth is no less than 44 square miles, and even allowing that the divisional staff officers have motors, it is beyond reason to suppose that they can allot billets except in large towns. The brigade area is a much more handy affair and will be generally well within the capacity of one man. But at present the only brigade staff officer is the "Brigade Major," and he may not be available. He may be required by his Brigadier for active operations during the early afternoon, the very time when the important details of accommodation and supply are being worked out. The Brigade administrative staff officer will, moreover, be an important functionary if, as seems desirable, his duties are also extended to the brigade area.

For there must be no restriction upon the liberty of the divisional general to transfer troops from one area to another. There must be no confusion between the attachment of units to brigades for accommodation and supply, and the attachment of such units for command and direction. This means that the necessary give and take, both as regards area supply and as regards the adjustment of transport, on the conclusion of any march to meet any alteration in distribution, must be arranged between the brigade staff officer, the area transport officer and the area supply officer. Probably the best way will be to let the baggage sections of all units in the brigade area march off together, marshalled in the same order as their fighting units, and make the necessary adjustments on reaching the next night's halting place. With this end in view, "points of initial rendezvous" will be nominated for each area at which, all proceeding there, will find either the brigade administrative staff officer or his representative, who will direct them to their billets.

Digest of the Procedure.

The procedure would then be from first to last as follows. On the decision to halt when the leading brigade reaches a certain point:—

A.Q.M.G. and D.A.Q.M.G.—Define the divisional billeting area, divide it into 3 brigade areas, tell off divisional troops to areas, and locate the divisional road refilling point. (If supply is to be from one point).

BRIGADE ADMINISTRATIVE STAFF OFFICERS.—Allot billets to troops, nominate points of initial rendezvous, and brigade road refilling points (if required).

AREA SUPPLY OFFICERS.—Ascertain what proportion of troops can be subsisted and what total remaining requirements will be, and report to divisional supply officer.

AREA TRANSPORT OFFICERS.—Direct baggage waggons to units, and supply waggons to units for issue. If refilling overnight is contemplated, they will re-concentrate the supply waggons at the "brigade road refilling point" and supervise refilling.

NOTE.—It may not be necessary to send the supply waggons of troops to units substituted in billets at all. On the other hand, special brigade waggons carrying fresh meat and fresh bread may have to visit several units.

DIVISIONAL TRANSPORT OFFICER.—Proceeds to "Road Rendezvous" to guide the Divisional Supply Column to the Road Refilling Point (or points) and divides it according to his areas to be served on information given him by the Divisional Supply officer.

DIVISIONAL SUPPLY OFFICER.—Ascertains the requirements of each area, and informs his Divisional Transport Officer accordingly, meeting the latter at a point agreed on between them—probably the rearward Road Refilling Point.

If this system were generally adopted the complete staff would be constituted as shown in the attached schedule, the channels, horizontal and vertical, being well understood and clearly recognized. Any detachment made for any purpose would be provided with a similar staff extemporized as follows:—One officer, probably an adjutant of a unit, for general administration, one quarter-master as area supply officer, and one first-line transport officer as area transport officer and baggage master.

One point only remains for discussion as regards the administrative staff, namely, the provision of a co-ordinating and responsible officer as the head of the supply and transport branches. In the A.S.C. Transport Manual a divisional "A.D. of S. and T." still remains, but is not at present provided for in establishments.

The officer commanding the train and the divisional transport officer are at present one and the same officer, but their functions will be so different that, quite apart from the fact that there is no central head controlling both branches of the A.S.C., other than the A.Q.M.G. who is a staff officer and not an executive officer, it is difficult to see how he can always be where he will be required. It does not matter what he is called so long as he is recognized as a technical and expert adviser, and is available for consultation when wanted.

It has already been pointed out that the system of supply to be actually adopted must remain undecided until the situation declares itself each day, and it is for that very reason that the Divisional commander will require at his elbow the one man who can tell him precisely what influence the question of supply has upon his latitude of action.

And the last point of all is ammunition. I have no time to do more than hint at it. If each gun in a division fires a hundred rounds it will require 20 three-ton lorry loads to replace it. The difficulties of road congestion, the unavoidable uncertainty of precise method have been indicated, the removal of wounded and other reasons provoking movement on roads in rear can be imagined. What system is to be adopted for the provision of ammunition for two or three divisions on one road?

I make no attempt to answer the question beyond stating my belief that as the general situation demands that a road so occupied should be treated in all respects as a single line of railway, ammunition should be supplied at the same time, in the same way and by the same department, as food and forage. But if so, whatever type of mechanical vehicle is selected, the importance of insisting upon homogeneity of speed as regards all supply columns must not be lost sight of.

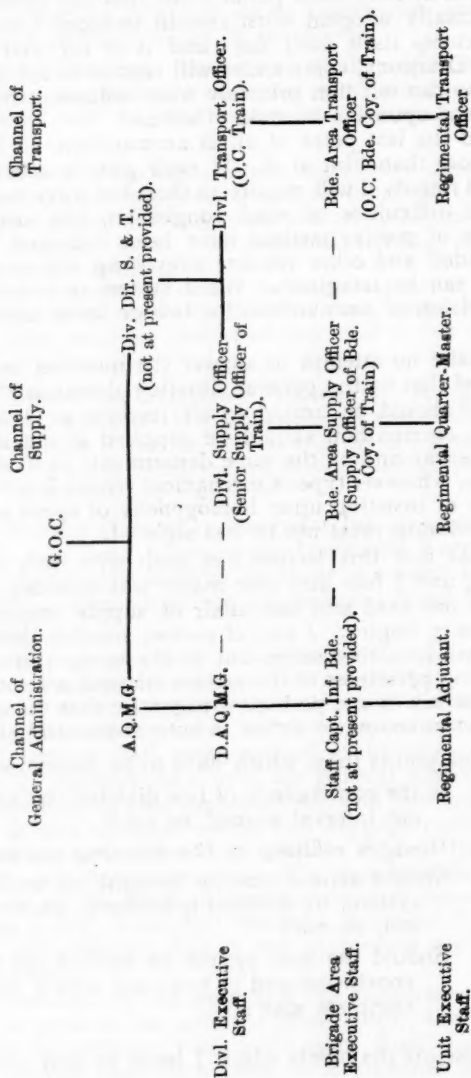
I fear that this lecture has dealt with very uninteresting subjects, and I fear also that many will consider that I desire to make too hard and fast affair of supply matters, and raise unnecessary bogies. I am, of course, sensible that all my difficulties will iron themselves out in the wash, provided that the underlying principles of the system adopted are sound and elastic. It seems to me, perhaps arrogantly, that the system which I have endeavoured to define is both sound and elastic.

Those points then, which have to be determined, are:—

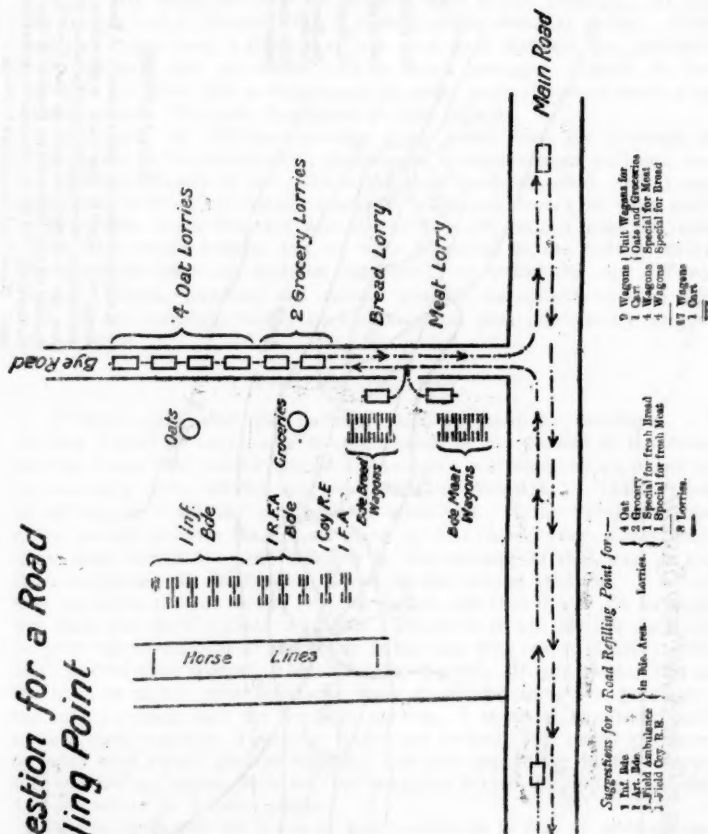
- (1). Is the contingency of two divisions on one road without interval normal or not?
- (2). If so, is refilling in the morning practicable?
- (3). Should ammunition be brought up under a different system, by different machinery, under different control, or not?
- (4). Should the area system be worked out to its logical conclusion and be provided with a recognized and complete staff?

These are the points which I leave to your consideration.

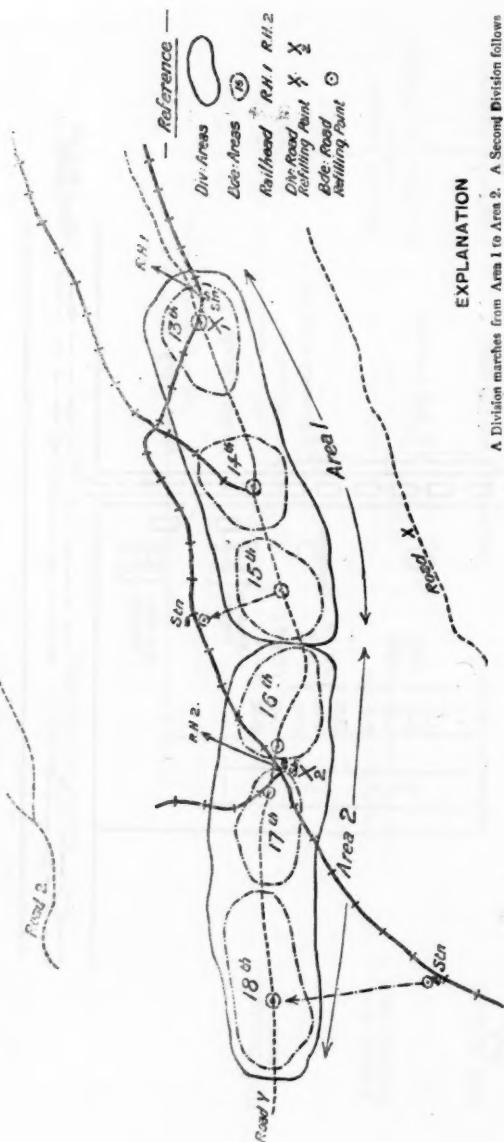
CONSTITUTION OF THE STAFF.



Suggestion for a Road Refilling Point



Example from a Road & Railway System



EXPLANATION

A Division marches from Area 1 to Area 2. A Second Division follows closely. For Supply in Area 1, the Supply Column can be dispensed with owing to this exceptionally favourable railway facilities, or the 16th Area can be supplied by lorries, the other Areas direct from railway. Next day the same Division in Area 2 requires the Supply Column to feed the 18th Area. The 16th and 17th Areas can be fed as before from Railroad direct. Roads 1 and 2 are occupied by Troops. The Supply Column can only reach X_2 from X_1 by night.

Major-General W. P. Campbell, C.B., G.O.C. 5th Division: I look upon this matter from the Divisional General's point of view. I think we have to consider the position of a division marching along a road with another division behind it and a cavalry brigade in front, because that is what the state of affairs will probably be if we ever fight abroad.

The first thing the Lecturer touches upon is the frontage. He says the frontage of a division when it is deployed is about $2\frac{1}{2}$ miles. When one has 12,000 men, I think that is a very good distance, but personally I am not quite sure we should have so much frontage. I think the Germans do not think that a division of the same strength covers much more than 2 miles. We must be elastic in that regard.

Last year my division marched down south from the Curragh on three roads. We worked with mechanical transport from railhead, and we had no difficulty at all. The roads were perfectly good, and it was quite easy to fill up our supply waggons. This year (1911) we were going to march the three brigades and the cavalry all on one road in order to see what would happen, but we were prevented by the railway strike. We therefore have not had the opportunity of trying the two different ways. I think, however, the normal position we should have to deal with on the continent would be two divisions plus one cavalry brigade on one road.

REFILLING OVERNIGHT.

I fully agree with the Lecturer that we must fill overnight. I daresay I shall be very much disagreed with by my friends in the Army Service Corps, but the Divisional Commander will want to go ahead in the morning with all his waggons filled up overnight. Think what would happen if he had not his food with him. If the fighting troops of the Second Division behind you came up and passed your supply waggons, there would be great difficulty in the evening of that day to get those waggons past the fighting troops of the Second Division. I notice that on pages 17 and 18 the Lecturer points out that if you fill at night you have two days' rations with you. Therefore if you do not get your supplies up on account of the roads being bad you are in a great difficulty to feed your troops. There is another point. If you do not fill up the train at night, your divisional train is divided into two portions—the supply portion and the baggage portion. I think it is much better to keep them together, if possible, under one control; you would get them up with very much greater facility. If you are filling in the morning, and you are driven back on your waggons behind, I think you would find yourselves in a sorry plight.

The second point the Lecturer has touched on is that of dividing the billeting area into three brigade areas. I think that is a most excellent plan. There are three brigade areas, and, practically, the brigadier of each brigade is responsible in some way that all the troops in that area are fed, and the supply officer of the company which serves the infantry brigade will be responsible for feeding all in that area—that is to say, the artillery, the engineers, the A.S.C., and the divisional headquarters, assuming they happen to be in that area.

REFILLING FROM THE LORRIES.

I think the alternative method of refilling which the Lecturer touched on—that is from the lorries and from the railhead—should be carefully

thought out. There should be a good deal of elasticity about it, and the Divisional General and the General Staff must be closely in touch with the General of the Line of Communications. I greatly sympathise with the General of the Line of Communications. He has to feed all the troops in front, and he has to consider the coal and petrol. He is in a very difficult position, and he ought to be in close touch with the Divisional Generals in front.

I consider that the Lecturer's ideas of filling the supply waggons from the lorries is very sound—I mean the putting of the oats in one place, biscuits in another, and meat in another.

There is one strong point in connection with staff captains which I should like to mention. You no doubt remember, Sir, that at Aldershot we always had a staff captain besides the brigade major for one brigade; and if we divide this supply system into areas I think a staff captain is the man who would be of the greatest use. The post of staff captain has been discontinued; the Army Council did not like to have a staff captain with a brigade, but I think in war he would certainly be wanted, and therefore he ought to be brought back into the Regulations as the man to deal with the supply and the billeting of these different areas.

THE SUPPLY OF AMMUNITION.

Another point which ought to be considered is the supply of ammunition. I do not know whether the artillery or the A.S.C. will deal with that, but it is a very strong point, and I think the probability is there will have to be some special artillery officer to deal with the matter. With the present quick-firing guns and rifles, the ammunition supply will be of the greatest importance, and some special officer will have to be appointed to see that the ammunition is got to the front.

THE SUPPLY COLUMNS AND THE DIVISIONAL TRAIN.

I do not agree that the movements of the divisional train should be dependent on those of the supply columns. I think the reverse is the case—that the movements of the supply columns should be dependent upon the divisional train, and that the Divisional General should send back and say where he wants those supply columns. I think he would have to have a great deal of latitude in the selection of his filling points in the interests of the "free movement" and "manœuvre" of his division.

Colonel G. R. C. Paul, C.M.G., A.D.C., Assistant Director of Transport, War Office: I should like to make a few remarks upon some of the more prominent points with regard to transport which have been raised. I will deal first with the four points with which the paper concludes. The first one is "Is the contingency of two divisions on one road without interval normal or not?" I certainly consider it is. The second question is: "If so, is refilling in the morning practicable?"

SUPPLY OF THE LEADING DIVISION.

As the supply of the rear division would not give very much trouble, I will confine my remarks to the First or leading Division. I do not think refilling, unless it were effected at a very early hour, in the morning, would be by any means desirable, but if the two divisions marched off simultaneously, say, at 6 o'clock in the morning, I should certainly consider that a refilling in the early afternoon of the supply waggons, of the First Division, would be quite possible. The horsed supply waggons

of the First Division would follow the Division when it started its march, and they would halt just in front of the place where the head of the Second Division would halt that day. The mechanical transport column for the First Division would come through the area of the Second Division after it had halted at about 12 or 1 o'clock, and after just clearing the Second Division, they could refill the horse supply waggons of the First Division. They could then return to railhead again at a reasonable hour—say at 4 or 5 in the afternoon, and the horse supply waggons of the First Division would also rejoin their units at a reasonable time. If the divisions were closed up in cantonments at ordinary marching distance apart, the supply column of the First Division could march before the Second Division started. I think that would meet that case. They would have to make a return journey either through the Second Division on the march, or they could wait till the Second Division had halted, and then return through the cantonment area.

Then there is the last case where the two divisions might be billeted together in one large town. In that case the supply section of the train of the First Division would, of course, be filled before it started.

THE SIMPLEST CASE: EACH DIVISION ON ONE ROAD.

With regard to the notes I wrote for insertion in the "Army Review" in July last, I should like to make it clear that the examples quoted and the diagrams given put the very simplest case. The organization was quite new, and we did not want to bewilder people by putting a very complicated problem before them. The diagram represented the divisions, and all the other formations, each marching on its own road. Of course, that is a very simple problem, but we have thought out all the others, and if anyone would like at any time to see how we propose to feed two divisions on one road with cavalry in front of them I shall be very glad to give the information.

I do not for a moment wish it to be inferred that filling at night will never be resorted to. I quite agree with General Campbell that it will very often be resorted to, but we do want to have daylight filling if we can. All this mass of transport going up and down the roads in the middle of the night will lead to terrible confusion and, if it is possible, I think we should always fill by day.

REFILLING OF AMMUNITION WAGGONS.

With regard to the third point "Should ammunition be brought up under a different system, by different machinery, under different control, or not?" There is very little doubt that if we have a very much accelerated food supply system we must also have a very much accelerated ammunition supply system. It would not be much good filling a man's interior if his ammunition pouch was empty. We have now adopted precisely the same system for the supply of ammunition, and we are using the same type of vehicle—a fast moving lorry. The waggons will fill at railhead and deliver to refilling points as may be directed. The supply of ammunition is not quite so complex a problem in some ways as that of the supply of food, because it is not a regular supply, and the ammunition might very likely not be wanted for two or three days. Therefore, I do not think there are quite the same difficulties with regard to ammunition, although of course it adds to the transport on the roads.

I will not deal with the fourth question: "Should the area system be worked out to its logical conclusion and be provided with a recognized

and complete staff?" as there are others who are more fitted to reply to it than I am.

With regard to the instance given of nine divisions marching on three roads, I think the Lecturer laid too much stress on their being controlled by A.Q.M.G.'s of divisions. They would be controlled by the staffs of Armies, and not generally by General Head Quarters.

REFILLING MECHANICAL TRANSPORT.

I cannot regard this filling of the mechanical transport supply columns early in the morning at railhead, as suggested, as a normal procedure. The normal procedure would be for the mechanical transport to fill in the evening and start off early in the morning to its destination. Unless one had very definite information that railhead were going to move during the night, I think it would be a great error to allow the mechanical transport to remain empty all night alongside the railway trains. I think it should be loaded immediately it returns to the railway. With regard to the actual procedure of loading the supply waggons of the train, the mechanical transport will certainly have to be loaded at railhead by brigades, and the supply section of the train will of course be loaded by units. I do not think this will present any great difficulty. I think the diagram the Lecturer has given us shows very clearly how the brigades can be loaded.

CONTROL; TECHNICAL ADVISERS; AND STAFF WORK.

With regard to the control of the train on the road, whether as a whole or divided into two sections, I do not think that will offer any difficulty. In the organization we have put forward we have provided sufficient staff for such a contingency. As regards the want of a technical expert adviser in a Division on supply and transport question, the senior Army Service Corps officer—a lieutenant-colonel in the future—should be looked upon as an expert adviser. There are many details in regard to this new scheme which have to be worked out. We now have a system which gives our Expeditionary Force three or four times the mobility it formerly possessed, and naturally the improved system will require very much more intricate staff work. I hope somebody will touch on the question of the staff work, and particularly the importance of the staff work to be done by the Inspector-General of Communications and his staff. It must be clearly understood that all this mechanical transport is under the Inspector-General of Communications, and it will want the very closest work between his staff and that of general headquarters to make the system a success. We cannot have such a great acceleration without having to overcome many difficulties. I am sorry that last autumn we had not the advantage of manœuvres, but next year we hope to test the system fully on both sides, and I have no doubt we shall all learn a great deal therefrom.

Colonel P. E. Hobbs, C.M.G., said that he hoped the Lecturer would not think him unduly captious when he said there were one or two of his remarks which should not go forward without being challenged.

With regard to the question of refilling at night or in the morning, all those who had had experience as Supply Officers on manœuvres or on active service, knew how important it was to make issues of supplies by natural light. He thought that it would be almost impossible for supply waggons to issue to the troops at night and effect a refilling from the supply columns, within the hours of daylight. Certainly the "dumping"

of supplies was a thing to be avoided; if possible they should always make the exchange of loads direct from vehicle to vehicle. This had already been tried on a small scale, and he hoped that at the manoeuvres in 1912, they would do it on a much larger scale.

GIVING THE DIVISIONAL GENERAL THE OPTION.

They all naturally desired to assist the Divisional General in every possible way, but in this question of the supply of an army in the field, there was a second party to the agreement, namely the I.G.C., and it would not always be possible, owing to the railway arrangements and the distance from railhead, to give the Divisional General the option of refilling either in the morning or the evening. He thought, however, that the system was admitted to be sufficiently elastic to allow special circumstances to be met by special arrangements, such as making the troops carry more than the authorized number of days' rations.

The Lecturer had employed transport drivers as a loading party. There he must join issue with him, because a driver, whether he was in charge of a horse vehicle or a mechanical vehicle, was an expert. A horse transport driver, when halted, had his horses to look after; it was his duty to see that the vehicle was properly loaded, but not to do any manual labour. The mechanical transport driver's business was to look after his machine generally.

The suggestion that horses should be worked while the mechanical transport was idle, was, he thought, unsound. The horses of the Train would be very hard worked and, whenever possible, it would be preferable to take the Supply Column lorries straight to the troops, and rest the horses. They had a handsome percentage of lorries provided which allowed for breakdowns and repairs.

THE PROVISION OF HAY AND WOOD.

Next as regards hay and wood: he did not think the importance of this question had been fully realized. They were obliged, in order to keep their transport establishments within reasonable limits, to assume that hay would be found in the country in which they were going to operate.

He and his brother A.D. of S. and T. in the Southern Command had been so much concerned with this question, in preparing for the 1911 Army Manoeuvres, that, rather in the face of what was intended to be followed, they had asked that they might carry their hay with them.

Another difficulty arose with regard to fuel. They used to utilize the cases which contained the preserved meat, etc., but now, if they were going to use fresh bread and meat, the amount of fuel at their disposal would be very much lessened; and all the more would have to be provided.

THE A.D. OF S. AND T. OF A DIVISION.

Lastly, as regards the question of the A.D. of S. and T. of a Division, his view was that each Division would want an A.Q.M.G., versed in the complete technique of the whole of the administrative services, and also a lieutenant-colonel of the Army Service Corps who would, if necessary, be at the elbow of the Divisional-General. The only drawback of making this lieutenant-colonel the O.C. Train, was that he would not, in that case, be encamped, as he ought really to be, with the Head Quarters of the Division. There was an administrative medical officer, an administrative veterinary officer, and so on, and he thought

that the lieutenant-colonel of the Army Service Corps—who would be a very important person when things got warm—would have to be close to his General.

In conclusion he desired to say to Sir Thomas Cuninghame how very welcome it was to them to see an officer of the staff, in a position which was not entirely connected with transport, giving a lecture of this sort. The closest sympathy and assistance was required by the Supply and Transport Services from officers of the General and Administrative Staffs and from all other grades of the army.

Brigadier-General F. W. B. Landon, C.B., Inspector of Army Service Corps: There is one point I did not quite follow in the lecture where the Lecturer said, "The great advantage of the overnight system seems to me to be that it is the only system which is independent of the railway." No doubt he will explain it, as, under the approved system, we must be dependent upon the railway for everything which we cannot obtain by requisition in the country, unless we draw on the Reserve Parks.

REFILLING IN THE MORNING.

I should like to add my very strong opinion as to the absolute necessity of refilling in the morning, if possible. May I crave attention for one moment while I just run through the sort of thing that would happen. Assume that we have begun with refilling in the morning from supply column to train waggons, i.e., we commence our campaign on that system. The importance of the danger of suddenly changing from that system to refilling at night time cannot be sufficiently emphasized. On Monday morning, having concluded the refilling at the road refilling points by, say 11 a.m., the supply column lorries start on their return journey to the next railhead, arriving at, say 2 p.m. at the latest. During the day it has been decided that the next refilling of train waggons is to take place overnight instead of in the morning. Now, assuming that the train waggons are empty after issue to units by 8 p.m. that (Monday) night and are available to refill from the supply column lorries during the night, it is a very great question whether the supply column will be able to fill up with supplies from the railway trucks at railhead and get back to the road refilling points in time to refill the train before the small hours of Tuesday morning, which comes to the same thing as if they refilled in the morning. If, on the other hand, it is only intended that the refilling overnight is to commence on the Tuesday evening, it means that the train waggons march off empty on Tuesday morning and have nothing to issue to the troops on arrival at the halting area that evening. On arrival of the lorries on Tuesday night there is not much question of refilling the train, as the supplies brought by the supply column are required at once for issue to troops, and the train can only act as carriers between the lorries and the troops. The work will be carried on far into the night, and as the train waggons will march empty again on Wednesday morning, there will be little or no rest for the men or horses.

The change from overnight to morning refilling again might easily result in a shortage of one day's supplies as far as the troops were concerned, thereby involving consumption of the iron ration. I think there is no doubt that every effort should be made to stick to the principle of refilling in the morning, and that, even with two or more divisions on one road, much refilling should be practicable with careful staff arrangements.

DUMPING OF SUPPLIES TO BE AVOIDED.

I want to emphasize the principle that "dumping" must be avoided. The ideal system would be that the supplies should never touch the ground from the time they are loaded into railway trucks at the Main Supply Depot until they are issued to units from train waggons. That is what we want and I do not see why under most circumstances it should not be carried out. Colonel Hobbs has alluded to the difficulty of proceeding from pile to pile, and in that connection the Lecturer admits that it would not be difficult to arrange for regular brigade refilling, in the case of bread and meat, from lorries to train waggons near the road or the entrance to the field. Why could not that system be adopted with regard to all the supply waggons and so avoid the "dumping?"

The Lecturer explained that it was because of the difficulty of individual proportionate distribution.

Lieutenant-Colonel Astley Terry, A.S.C., Assistant Director of Supplies and Transport, London District, said that he was not quite in agreement with the Lecturer when he implied that the matter might be considered from two aspects: that of the Army, and that of the Army Service Corps. He had always held that there was only one point of view, namely, the general opinion of the Army. The Army Service Corps existed for the Army, and they must look at things as far as possible from that point of view—and as a matter of fact he thought they did.

BRIGADE AREA OFFICERS.

He did not understand whether the Lecturer meant that there should be a third Army Service Corps officer in the brigade area, as well as the brigade supply and transport officers with the trains.

The Lecturer said that he did not.

Lieutenant-Colonel Astley Terry said that he was glad to hear it, because he thought a third officer unnecessary. He did not think it would be sound to extend the duties of the brigade supply officer to a brigade area, because, in that case, he would never know exactly what he had to supply. General Campbell had said that he would have to supply any troops which happened to come into his area, but he could not understand, in that case, when the requisitions—which are always necessary with our system of field supply—would be sent in to him, or who would know on whom to requisition. It would be far better to let the present system continue, by which the Supply Officer had to supply a certain number of troops and that number of troops only.

He entirely agreed with what the Lecturer said about the Assistant Director of Supplies and Transport of a division, but he could not agree that it did not matter what he was called. It must be thoroughly understood by everyone that he was, in every respect, a staff officer, and that when he gave an order it was the order of the General. He thought that if an O.C. Train tried to perform this duty people would turn round and say "You are only a regimental officer; what do you mean by giving me orders?"

He joined with Colonel Hobbs in congratulating the Lecturer on having brought this subject forward, because he knew from experience that the more the different branches of the Service got to realize each

other's difficulties and limitations, and to sympathize with each other, the better would be the result both on manœuvres and in the field.

The Lecturer, in reply, said that he had gathered from Colonel Hobbs that he disliked the idea not only of refilling overnight, but of issuing overnight.

Colonel Hobbs said that he was far from holding such an opinion.

The Lecturer observed that Colonel Hobbs had spoken of the disadvantages of waggons going up and down the road in the dark; but the only waggons which would do that, in the brigade refilling system, would be the ones which had just returned from issuing.

Colonel Paul said he thought it was he who had used that expression, but he was referring to the mechanical transport, not to the supply waggons of the train.

The Lecturer said that he had understood Colonel Paul to say that under any circumstances it would be a mistake not to let the supply column fill up the night before.

Colonel Paul said that if they were at railhead it would be a great mistake to leave them there. The Lecturer had rather led them to think they had the waggon transports empty at railhead and the supplies there waiting for them, and that no further steps were taken till the next morning.

The Lecturer said that under any method of refilling the supply column would go straight back to railhead to refill immediately.¹

Brigadier-General Landon remarked that the mechanical transport, having handed over its supplies that day to the train waggons, could not possibly get back filled that night so as to fill the train waggons again. Therefore it would not be able to fill them up until the following evening and there would be one day short of supplies.

Colonel Hobbs said that his point was that if the regimental waggons had issued to the troops and they had to get back in darkness, from where the troops were to the refilling point, and then to refill from the supply columns, this would present considerable difficulty.

¹ The object of my question was to represent the point that what applies to one case applies equally to the other. If you halt early you can carry out either method with ease. If you halt late you can carry out neither method with ease. From the general point of view, the overnight system possesses two advantages not possessed by the alternative scheme, namely:—

- (1) It allows the train to be disposed of as a whole in orders issued overnight.
- (2) It gives the Divisional General one more day's supply before he starts.

Against this, the only disadvantage not shared by the alternative system is the shorter notice necessarily given to the Inspector-General of Communications.—T. C.

The Chairman: I think we must congratulate the Lecturer, and to some extent Colonel Paul, for the sanguine view they both take of the Army they are prepared to supply—on paper—namely, nine divisions. Personally I have never been sanguine enough to think we should ever take the field, at any rate in my lifetime, with more than six divisions, which, I am quite sure, will be amply provided for.

With reference to the first point, I think it may be accepted that we shall move with two divisions at least and part of a cavalry division on one road.

REFILLING OVERNIGHT.

As regards the question of when the waggons are to be refilled, I am entirely in agreement with General Campbell. You have to take your orders from the General Officer in the field; he *will* have his food, and it is quite certain that the moment he receives the news that the enemy is in touch and that he may either be attacked or be the attacker, he will want his waggons filled up overnight.

There is one point with regard to the transport horses on which nobody has touched. The Lecturer says under the sub-heading "Filling overnight," "Rest midnight to 2 p.m. next day." If one looks under the sub-heading "Filling next morning," the rest is from 11 a.m. to 8 p.m. Therefore by filling overnight the horses get a night's rest; and everybody knows that it is by night and not by day that horses rest. That is another reason, I maintain, that where it is possible, you ought to fill overnight. The difficulty of light has been raised, but surely in these days, when we expect to have electric search lights along the whole of our front, there should be no difficulty in providing an installation for the area where the supplies are going to be removed from the lorries to the waggons.

RATIONS CARRIED ON THE MAN.

And now another point, I have always had it on my mind that our men do not carry enough rations with them. I happened to be reading the other day Fortescue's *History of the British Army*, and I noticed with some surprise that, in answer to a question which was raised in the papers of that period (1737), it was stated that Grenadiers carried six days' rations in addition to other things. If that was so in those days, what ought not the soldiers of the present day to carry? I am not aware that any experiments have been made for supplying the man with a ration of meat biscuit, or something of that sort (besides his other rations), even if it is only half a pound, to keep him going another day. Apparently no attempt has been made to feed a man beyond giving him the remainder of his day's ration and an emergency ration, and he has to depend on good staff work to get anything more for the next forty-eight hours.

Brigadier-General Landon: He has the unexpired portion of his bread ration; he has his emergency food, which will keep him alive for twenty-four hours, and he has his iron ration which is only to be used by order.

The Chairman: I did not understand that the soldier had the complete iron ration on him. It comes to this, then, that he has two and a half day's rations on him and with the 1st Line Transport, if he is allowed to consume the iron ration. No doubt you could get more food up to him before he was starving if you had ample notice from the General Officer Commanding the Army what his plans were, and if your communications were not raided or part of the force were not sent in pursuit.

Brigadier-General Landon said that when the army was deployed for action it would be easier to supply than when the three divisions were

marching along the road. They would be easier to get at and the rear would be fairly clear. That would be one of the few instances—or he hoped it would be—when the train waggons would go back to the supply columns to refill.

The Chairman: We had better settle this question now about refilling. You have two general officers to consult, the G.O.C. in C., and the G.O.C. Lines of Communication, and you would have to meet their wishes in time of war. It is quite clear you must expect to supply the Army with food overnight when there is a battle imminent. Will that present any insuperable difficulty?

Brigadier-General Landon said that with an army deployed for action he did not think there would be any insuperable difficulty in supplying them overnight.

The Chairman: The probability is you would have to supply them overnight when they are in their billets or bivouacs. Information mostly comes in in the evening. The G.O.C. in C. would insist upon the men taking as much food as they could carry with them, as well as his waggons, when an engagement was imminent. You do not admit that refilling overnight would be a difficulty when the troops are in bivouac?

Brigadier-General Landon said he did not admit there would be any insuperable difficulty, especially under the organization shown in the third diagram of the Expeditionary Force tables, for the supply and transport.

The Chairman: I have only one other point to raise, about the sick and wounded. A battle being imminent probably means that the advance guard has been fighting, and that there would be a considerable number of wounded men who, with the sick, would have to go back in the supply waggons.

Gentlemen, I am sure you will join with me in thanking Sir T. Cuningham for his very interesting lecture. I think, after the discussion, we have now arrived at a satisfactory conclusion, that two or even three divisions can be supplied on one road, and that refilling waggons over night presents no insuperable difficulty.



THE TERRITORIAL FORCE.

By "TANJ."

Foreword.

THE future of our Territorial Force is at present causing great anxiety to all who have the welfare of the country at heart; and naturally so since it is a question of very grave importance. So much has been written on the subject that I am somewhat diffident in adding anything to the discussion, and yet, though the views of many of the writers carry much more weight than mine, I may perhaps be allowed to state my opinion, because I have had a long experience of the Auxiliary Forces, and in other countries than England. And my service has not been confined to these, for I have spent a good deal of time doing duty with Regular Forces, and understand something of their ideas of their unpaid comrades. At any rate, I can claim to be in sympathy with the service generally, and, although there may seem to be more criticism than praise, these notes are penned with a sincere desire to help in some small degree to preserve the Force created by the present Minister for War.

Lord Haldane is considered to have admitted that the Territorial would require six months' continuous training before being really fit for war (as opposed to being merely in the field), and that, even then a Continental Regular would be twice as good as he was,¹ and the general simplification in the operations at this year's manœuvres shows that he is not the only one who holds that opinion. And even though in all probability, many of the corps would be able to give a good account of themselves within half that time after the outbreak of war—for men improve rapidly under such a spur—but few would be ready to resist successfully a sudden raid under present conditions. Still, the Force could be greatly improved by judicious treatment, and even now its fighting efficiency is not as negligible as some critics imagine. Regular officers and military reporters are apt to judge the Territorial only by what he can do in camp, and when he falls out or goes sick they rush off into print, forgetting, for the moment, the very important facts that (a) he is out of condition, (b) he has to think of his return to work the following week, and that if ill he may be thrown out of employment, (c) it is impossible for him to desist from his profession or ordinary avocation one day and be an expert in another the next.

¹ This was the gist of his speech in September at Tranent, and of his introduction to "Compulsory Service."

I will first state what strikes me as the faults, and then the possible remedies. I do not pretend that, even if these recommendations were carried out, Territorials would be the equal of Regulars at the commencement of a war, but we should be able to stave off conscription or universal service for many years to come, and I must admit that I should be sorry to see the voluntary principle abolished altogether. No one will say that a general military training would be inadvisable, but apparently the country will have none of it, not, at any rate, for the present, and instead of wasting time in wondering what might be, it would be better to consider what can be.

Defects of the Present System.

The defects of the present system seem to be :—

- (1) The Territorial is under-trained;
- (2) There is not sufficient facility offered to members of the Force to undergo instruction, and there is always a delay in payment for attendance;
- (3) There is too much office work;
- (4) Not only has the unpaid man to give up his time to learning his work, but *also* he is out of pocket for so doing;
- (5) The conditions of service are more severe under the 1908 scheme than before, but some of the rewards obtainable in the Volunteers have been abolished;
- (6) No effort is made by the Government to consider special cases outside the letter of the regulations, nor to make the Force attractive socially.

These are the main points. I think it will be well to examine them thoroughly, and, in order to avoid repetition, they will be grouped where necessary.

I. ENLISTMENT, TRAINING AND INSTRUCTION.

Considering first sub-heads (1) and (2) of the above list; these involve questions of (A) enlistment, (B) training, and (C) instruction.

(A) ENLISTMENT.—The period of enlistment for the men is too short, but the retiring age for officers is too great. What is required is a constant stream of men in their prime, who will remain in the Force long enough to learn their work, and will make room for others when they are no longer so energetic as to be fit for active service. Elderly men would not think of taking part in a football or boxing match, and it must be remembered that a battle is the most severe athletic contest possible, and one which requires a very thorough preparation. Yet the actual fighting is often the least trying part of a war.

The period of enlistment should be raised from 4 to 6 years. This would be harder on the few shirkers in the Force, but

would not make so much difference to men attending the maximum number of parades as suggested later on page 47, since they would be entitled to a reduction of 15 months.

The ages for retirement for officers should be the same as laid down for those in the Regular Forces, and under the conditions suggested this would cause no hardship.

It is strange that no efforts are made to attract officers with active service. There are numbers of men serving under the Foreign and Colonial Offices who are continually experiencing active service conditions (especially political and police officers) and who would be invaluable. Many of them would be quite willing to join, but they are debarred because they are not living permanently in England. Surely the man who has some idea of foreign service would be useful, at any rate in the Imperial Service Section? The absurdity is all the more marked because officers once in the Force can be seconded out of England for many years.

At the recent Territorial manœuvres the cry from everyone who knew anything of real war was that the officers and men exposed themselves too much, and the only consolation expressed by the critics was that "live bullets would soon teach them how to take cover." But would it not be better to give the men the instruction now, instruction that can be imparted only by those who have themselves learned the art by grim experience—the only true teacher? It would certainly be cheaper in the long run, and no doubt the men themselves would prefer being able to give as good as they got to being shot down like helpless rabbits. They can always be relied upon to try hard, but trying hard on wrong lines does not do anyone much good. Criticisms like the above may be very satisfactory to the persons who utter them, but it is very wrong to the men themselves (and to the country) to throw away life by reason of economy in instruction. We pay large enough sums in education, much of which is useless, yet we neglect such a vital subject as this!

I do not think that there is any doubt that every officer and man would volunteer for active service if required, so the creation of Imperial and Special Service Sections seems to be unnecessary. But a periodical medical examination of fitness would be very advisable. I do not like the badges, the uniform itself ought to be a sufficient indication of the wearer's willingness for real service, though, if they must be worn, then let them be on each side of the collar, behind the regimental badge.

(B) TRAINING.—It is absurd to suppose that every man who has attended 10 drills at some time or other during the year must be fully trained. He might get them all in during a single fortnight, and not go near the regiment again for nearly two years (say in November, 1911 and October, 1913), and still be returned as "efficient" for each period of twelve months. In one of the Colonies where the writer served for some time, each officer and

man was required to put in one half-day and one night-drill per month, and a minimum of 3 whole days, 15 half-days and 24 night-drills, or 66 night-drills of $1\frac{1}{2}$ hours each, for the year, and, as only two drills were called for each week, no one could get in more than 10 parades in even the most favourable month. But however many he might attend for the year, he had still to be efficient for each separate month, and that was the principal virtue of the system. There was no regular army in the colony referred to, so that the Auxiliary Forces got the best material, yet 99 hours' instruction was considered the minimum that was safe. Can the Territorial, in many cases physically the inferior of the Colonial, do with 10 per cent. of that?

There seem to be far too many drills called per week for trained men here, so the musters are poor, for each man attends but one a month, perhaps. And as there is no regulation about parading at stated intervals, a condition of affairs could easily arise as indicated above, but it would be impossible under the Colonial system mentioned above. Officers usually attend from five to ten times the necessary number of parades, so such a regulation would not press hardly upon them. On the contrary, they would benefit greatly, for they would not have to turn up to see perhaps half-a-dozen recruits, but would always be certain of a good muster—and numbers inspire enthusiasm.

(c) INSTRUCTION.—There is usually great difficulty in obtaining permission to undergo a course of instruction on account of the small number of stations where classes are held, and, even when the candidate has been successful in the tests, there is always a great delay in the award of the pay earned. Many of the officers and men are very keen to learn any useful work, and, especially at first, are anxious to attend extra courses, but under existing arrangements only a few persons can be taken at a time, and after repeated refusals the enthusiasm of the unsuccessful applicants naturally wears off. Courses, too, are seldom arranged with any regard for the convenience of those concerned, but according to Regular ideas, and there are not enough of them. A Regular may as well be at Hythe as in London, but a Territorial cannot transfer his work to different parts of the country at will.

A great advance has been made lately by the institution of local courses in musketry, and I would suggest that this system (especially as regards the night classes) be further extended, so as to embrace every subject. No one will complain of a reasonable number of examinations if proper facilities are given for preparation, and the country will make a very good bargain if by the expenditure of but a little more money it can ensure that all the officers and the N.C.O.'s really know their work. They all wish to do so, but only very few can give up a month or even a fortnight and leave home, to study for what at present is really only a hobby; bring the classes to our doors and we will eagerly take advantage of them.

And that brings me to another point. A continuous course of instruction is no doubt the best, but it is often a period of such cramming that within a month or two the candidate has forgotten half of what he had learnt. Instruction to be of any use should have permanent results, and I would suggest that any one who cannot complete the course right off should be allowed to do so in stages of, say, a week at a time. This would be quite simple if there were an examination at the end of each week (as there is at Hythe), and to make certain that the student had not forgotten meanwhile all that he had learnt before (*i.e.*, that the results *had* been permanent) he could be required to bring a certificate from his C.O. that he had kept himself up to the mark. In military examinations there are usually three results possible, viz.—“D” (or special certificate), pass, or fail. Those who fail can try again and perhaps obtain a “D” eventually, but those who pass are not allowed another shot. This is a pity and ought to be altered, not only in the interests of the officers themselves, but also for the benefit of the service, for if there is something ahead to work for, they will always keep themselves up-to-date, and so the Force as a whole will be the better off.

Under these conditions more could justly be expected of officers and N.C.O.'s, and I would suggest the following requirements in the case of the former, an officer not being confirmed in his appointment until he had given in addition some practical proof of his fitness.

- (a) 2nd Lieutenant before confirmation—Examination A;
- (b) 2nd Lieutenant before promotion—Examination B;
- (c) Lieutenant before promotion—Musketry or its equivalent, *and* some other subject, such as Engineering, Transport, Tactics, &c.
- (d) Captain before promotion—Examination C, Complete Q, and some practical course.
- (e) Major before promotion—The examination for Tactical Fitness for Command, and to have been attached to some other arm of the service for practical work.
- (f) Lieut.-Colonel before promotion—Attachment to a Regular regiment or the Staff during manœuvres.

So much for what the Government could expect. The officers on their part, in addition to being paid immediately on conclusion of the course, should also receive (a) a free allowance of books, (b) a grant for tuition fees, for it is nearly always necessary to employ a regular instructor as a coach; (c) compensation for any actual payments made for hire of a room, meals, &c., during the course, which are proved to have been absolutely necessary, and (d), other advantages mentioned in Subhead III. There is usually no very great hardship in being required to pass military examinations where ample and proper

instruction has been obtained, and Territorials cannot all be fools, considering the number who earn their own living.

II. OBSTACLES TO EFFICIENCY.

(A) OFFICE WORK.—Regular officers are apt to judge a Territorial's enthusiasm solely by the number of hours he has spent on parade, and they often forget that even an hour or two per week (and perhaps four or five hours in travelling to and fro) means a good deal to a busy professional or business man. The Territorial officers ought to have practically no office work except in camp, all their spare time should be occupied in training the men, in getting to know them, and in practising themselves in taking command. Many of the officers and N.C.O.'s may be expert at figures, but they may be quite unable to keep a clear head on parade, and it is practice in the field that they require to make them fit for war, not further work in another office chair.

Many blame the War Office Staff for everything which goes wrong, and this is unfair, for (and it ought to be unnecessary to state this) the military authorities are not always possessed with a malicious desire to find means to increase the work, but err simply because, being enthusiastic Regulars and concerned with one profession only, they do not understand Territorials properly, and forget that the Auxiliary officer's spare time is already occupied to the full, and for no reward other than his own satisfaction in feeling that he has tried to do his duty. Again, much of the correspondence is caused not directly by the War Office, but in consequence of questions asked in Parliament by members, otherwise obscure, who simply wish to annoy a Minister, and probably do not bother about listening to the reply.

A certain amount of office work must be done, of course, but there is no doubt that a great deal of the correspondence could be dispensed with. In many cases it would take no more time to copy out a claim on to the proper form, where the particulars are correctly given, than to query and return it. It would not require signing and certifying afresh, for the original form could be gummed to the back and referred to. This procedure would have the very great advantage that the accounts would not be delayed. Again, when typed documents of which an officer must take a copy are sent to him, could not a duplicate be attached which he might keep and so save his time? There are many other ways. For instance, the initialling by officers concerned on the original would often save the copying of, and replying to, long, though unimportant letters and notices. The checking and re-checking of accounts is irksome; could not a C.O. be granted so much to do the best he could with it? He would naturally keep accounts for his own sake, and these could be inspected periodically at his headquarters instead of his being

required to submit numerous copies on every possible and impossible occasion. Pay-rolls, too, could be simplified by entering on them, *not* the names of the men who had received pay, but simply the numbers, thus:—

Pay Roll of "A" Coy.: (120 men).

4 Sergts.: @

6 Corpls.: @

90 Ptes.: @

Total:— (Sd.) A. B. Capt.

N.B.—The names of the 20 Ptes. not paid on this roll appear in Form X.

Such returns would make no difference whatever to the Territorial Associations; the members of those bodies do not in any case know the men personally. There are of course certain documents which must be signed and properly kept, but these are not very numerous, and they could be arranged for by enlarging the permanent staff so as to give enough men to each Company to do all the clerical work required.

(B) OFFICE EXPENSES.—Every Field Officer and every commander of a company should be able to frank letters on purely official business, the constant purchase of and accounting for postage stamps is an absolute waste of time and energy, and most officers pay out of their own pockets. A keen captain will postcard every member of his company on important occasions, for the men, being scattered, cannot be warned easily as in a Regular regiment, and this is a very serious item of needless expenditure—needless because a frank-stamp would reduce the labour, and abolish the expense.

(C) ORGANIZATION.—In the Colony before referred to there was a Militia or Volunteer Adjutant to each battalion in addition to the permanent officer, and he could always take the place of the latter if necessary, and something similar was possible under the Volunteer regulations here. In the Territorial infantry battalions there is already an extra Field Officer, and he might learn the work with very great advantage to himself later on. Such an assistant-adjutant might be attached to the Brigade or Divisional office now and then to learn the routine there, and to be on the spot to give any information required about his corps, and to push on the correspondence concerning his own branch of the service. Such a system would have a great sentimental as well as a great practical value. There might be some difficulty, however, in a major acting as an assistant-adjutant, since the regular adjutant would usually be his junior, and it would be better perhaps to appoint the senior captain to the post, he being relieved of the command of his company. He would be mounted during camp, and so the battalions of infantry would be as

well off as they are now, and the other units would secure an advantage. No Regular officer who has not seen active service, should be appointed adjutant of a Territorial Regiment. Before the South African war nearly all of the regiments depended upon their adjutants for instruction in the real part of the profession, and even now many corps do so, and unless these officers can give it they are not as practical as they ought to be. The appointments should be made more valuable so that they will create some competition, and not be desired because the holder has greater facilities for amusement, as happens sometimes. If time spent as adjutant or on the Territorial Staff were allowed to count towards the decoration there might be more candidates for the vacancies.

By the way, the junior mounted major in infantry battalions is rather an anomaly, no one knows what he ought to do nor where he ought to be, and it would be far better to substitute for him two dismounted officers of that rank, in charge of companies, as in the Regular units.

Again, there ought to be more subalterns. I would suggest three per company in infantry battalions, five per squadron in cavalry regiments, and a proportional increase in the case of other arms, so that each unit would always have enough, even after the musketry, machine-guns, scouts, signallers, &c., had been provided for. Officers are always required to supervise these, and that means that they are not available for their ordinary work. In camp, companies are sometimes commanded by 2nd lieutenants at present, and a captain is often lucky if he can boast even one subaltern who can give his whole time to company work. On the outbreak of war numerous other subsidiary posts would come into existence (such as O.C. *depôt*) and the shortage would be worse than ever under present arrangements. The work of company officers is becoming more and more important, and the greater number we can train the better off we shall be. There is also another advantage in numbers, and that is that where there are many officers to share expenses each individual pays less. It will no doubt be asked how we could obtain men to take these extra commissions when at present even the ordinary establishment cannot be kept up. The reply is that the Foreign and Colonial Offices should be asked to co-operate (see para : (1) (a)), and that the suggestions in this scheme must be taken as a whole, and not separately.

III. REWARDS.

Under this heading are considered sub-heads (4) and (5) of the list on the second page of the article, dealing with officers' out of pocket expenses, conditions of service, emoluments, and rewards.

(A) EMOLUMENTS.—I think that it is but seldom realized by non-Territorials that not only does the officer and

man of the Force (especially the former) give up his time to learning the work, but he is nearly always at a pecuniary loss also in so doing. The pay in camp covers expenses in many cases, but there is no return for the travelling fares, cost of meals on the spot, subscriptions, and etc., which are necessarily incurred when attending ordinary parades. One expects to pay for a hobby, of course, and the members of the Force know the requirements before they join, but a good deal of dissatisfaction is caused when they think that according to regulations they are entitled to certain allowances, and find that they cannot get even a refund of expenses, although they have had to sleep away from home in consequence of their self-imposed duties.

Again, it is indeed strange that those who are giving up their time with the hope of being of some use to their country in time of need should have to pay for doing so, while others, who go off to watch cricket or football matches, not only call them fools for their trouble, but save their money to spend upon themselves. While some writers advocate payment for voluntary services, others are opposed to the idea. I think myself that some kind of monetary compensation is inevitable, but I should like to see it given as a gratuity at the end of the year on a system something like the following:—There might be a minimum sum for each rank, commencing at 30/- for a private, and 100/- for a 2nd lieutenant, which would be paid to those who had put in a certain number of parades (say one afternoon and one night) each month, (and at least 50 during the year), the whole payment being stopped if the members had failed to be efficient in any one month without good cause. For the above purpose, if members were unable in any one month to put in the parades exactly as stated, the following equivalents could be allowed:—1 whole day = 2 afternoons and 2 nights, or six nights; one afternoon = 2 nights; and vice versa.

There should also be a maximum gratuity of say $1\frac{1}{2}$ times the minimum (e.g., 45/- and 150/-), which could be earned by persons attending twice the lower number of parades. I should not calculate the gratuities by regular rates of pay, but on an arbitrary scale, regarding them merely as a compensation for necessary loss of time, and expenses incurred. The periods spent during courses of instruction, staff rides, war-games and tactical exercises should be reckoned towards efficiency (i.e., for honorary rank and the decorations), but not towards the gratuity when they carried separate pay and allowances. Musketry practices, however, ought to count as parades (care being taken to provide other instruction for men not actually shooting), and arrangements should be made to call them on Sunday afternoons, if possible, so as not to interfere with the men's ordinary work. It is hardly fair to ask employers to pay the taxes for defence, and to lose by allowing their men to leave their work; the rich ones are thereby at a disadvantage

as compared with less patriotic rivals, and the smaller traders cannot afford to incur this extra burden. If the Government is prepared to impose a super-tax for the upkeep of the Territorials upon those who refuse to serve or to help, well and good, if not, what I suggest seems to be the only way out of the difficulty.

The idea of a gratuity does not commend itself to everyone; and others propose an extra vote for Territorials, the foundation of scholarships from regimental funds for the children of members, or some other form of reward. I am fairly certain that no Government will propose a double franchise, and I doubt if the idea of scholarships could be carried into effect, but the reduction of time earned for the grant of the medal might also be reckoned towards the bestowal of an old age pension if necessary, so that if a man had obtained his efficiency medal in 9 years (equal to 12 calendar years), he could get the pension 3 years earlier than the ordinary citizen, and so on. I think, though, that the requisite service for the medal should be 15 years (as in the Volunteers) for men putting in only the minimum number of parades; the specially good men would still earn it in 12.

(B) PROMOTION.—Every officer who joins a regiment hopes to command it some day. In the army, the officer as he rises receives increases in pay, but the Territorial finds that he must disburse more and more, and unless successful in his private business he cannot afford to accept promotion. Many such have done good work in the corps, and it is only right that it should be recognized in some tangible form, but at present this is impossible, and owing to the new system of giving Regular officers all the plums, Territorials are much worse off than were the Volunteers, even in ordinary promotion. I would suggest the restoration of honorary rank for this purpose; it would be highly valued by the recipients, and (surely this must weigh with any Government) it would cost nothing. Promotion by brevet is possible according to the Regulations, but so far there has not been a single case of its having been granted, so far as I know, and the rules governing that kind of reward are a dead letter. In most cases the C.O. on giving up his command might become the Honorary Colonel, retaining the appointment until his successor's term with the regiment was completed. Now and then, of course, it might be advisable to select outsiders (regimentally speaking) for the Honorary Colonelcy, but that could be settled by the regiment concerned.

Even ordinary promotion in the Auxiliary Forces is not satisfactory at present, for while some officers have not risen a step for ten years, others in that time have received commissions and have gained field rank. The grant of an honorary step would prevent stagnation, but there is just as much need for a check on too rapid advancement, and therefore—

- (a) No subaltern should become a captain with less than 8 years' total service—he cannot possibly know the work in less time.
- (b) No captain should be promoted major with less than 12 years' total service, but a captain with 15 years' service should be granted the honorary rank of major.
- (c) No major should be promoted lieutenant-colonel with less than 15 years' total service, but a major with 18 years' service should be granted the honorary rank of lieutenant-colonel.
- (d) A lieutenant-colonel with 20 years' total service should be granted the honorary rank of colonel.
- (e) An honorary colonel with 25 years' total service should be given the brevet rank, and after that the substantive rank on retirement.

I have already said that there should be a maximum and a minimum scale of parades. This minimum is greater than the present qualifying number for efficiency, and so each year under the system suggested should count for no less than is the rule at present, but those members of the Force who put in the maximum might be allowed to count $1\frac{1}{4}$ years for each year, so as to encourage them to learn as much as possible. Specially good service is always worthy of reward, for the more efficient the men the better the regiment, and the better the regiments the stronger the country.

Could not every Auxiliary officer who has seen active service be granted honorary rank in the army (*i.e.*, be seriously regarded as an officer)? Many have it on account of the South African war, although they never left England, while others who have been under fire have not been thus honoured. Yet surely the distinction should be a personal one, and not conferred simply because the regiment was embodied—and there have been other wars than South Africa.

It is not so easy to lay down rules for the promotion of the rank and file, but they would probably advance more rapidly than their officers if they complied with the conditions; they could reduce their six years' engagement to four, and in any case they would count the extra towards their requisite medal service (and towards the old age pension), and this would probably be enough in the case of those requiring a spur to make the difference between their wishing to be merely efficient and very good. These special benefits for good service should be made retrospective (to 1908), so that those officers and men who have fulfilled the conditions without any thought of reward should reap the benefit.

(c) DECORATIONS, ETC.—Under Volunteer regulations, officers with rank service were allowed to earn the efficiency medal, but a Territorial officer cannot do so. I am not much in favour of the restoration of this privilege, but if the qualifying period were raised again to 15 years it might be bestowed. At any rate, service in the

ranks may prove valuable to officers afterwards, and a certain period of training in an officers' corps might be insisted upon as a qualification for a commission.

The Territorials badly want N.C.O.'s; that is *the* weak part of the Force, and ex-soldiers would be the very men to supply the deficiency. And to strengthen the link between these branches of the service, a quarter of the time in the army (full time if attached to a Territorial Staff or Regiment) might count towards promotion and towards the decoration and medal (unless a man had already counted it as service for a medal in the army), provided that three-quarters of the required service has been in the Territorials. Another point is that the greater the number of men with medals in the regiment, the less will the members be likely to have the epithet "amateur soldiers" thrown at them—and we take ourselves seriously even if others refuse to do so. To encourage such officers and men, all war service ought to be counted as double time (full time in the case of Regulars) both for the Territorial Decoration and medal, and for honorary rank, as it did (for the latter) in the Volunteers.

If the recommendations in the foregoing paragraphs were carried out, specially good work would benefit a member of the Force to a very great extent for (a) all time on active service would count double, (b) all time in the ranks would count one half, (c) every year in which the maximum number of parades had been attended would count as fifteen months; (d) every year in the Army would count as three months, until a total of five years had been reached in the case of officers, or three, or three and three-quarter years in the case of the rank and file (*i.e.*, one quarter of the total required); except in the case of officers and men who had served on the staff or with a Territorial regiment, who would count full time for such periods. Provided that (i) the c.o. especially recommended the distinction, and (ii) that all the necessary examinations proposed on page 41 had been passed. And provided further, that any officer who had served for a period to within 2 years of any of the above totals, who had complied with all the other requirements, and who for private reasons was unable to continue on the active list, might be allowed to complete the qualifying period on the Unattached List if specially recommended.

These may seem great concessions, but they are not so really, for they are in the main merely a restoration of privileges formerly enjoyed by us when under the name of Volunteers, and even if the concessions were great, the increase in efficiency would be very much greater—and at no cost to the Government.

IV. THE ATTRACTIONS OF THE FORCE.

(A) THE SPIRIT OF THE REGULATIONS.—In former times the Law of England became so unchangeable and harsh that courts of Equity had to be established to prevent injustice through

the operation of the Law, and something of the kind seems to be required at present to modify the effect of the regulations in certain cases. One cannot blame an official for refusing to act outside precedent, for if he does so act he may be held personally liable, however just his decision may appear to non-technical minds.

The writer suggests that special Boards should be appointed periodically to deal with cases of hardship, each Board consisting, say, of a War Office Official, a special representative of the department concerned, and the applicants' G.O.C., with power to consider each case entirely on its merits, and to recommend the relaxation of the regulations in proper cases. As the members would be responsible for their recommendations, it is not likely that they would bring to notice any but the most deserving cases. The cases dealt with by these Boards might be (i) award of compensation to a Territorial for injuries received when engaged in sports which, although officially approved, and necessary to the efficiency of the corps, are not military exercises according to regulations, (ii) claims to decorations or promotion, which have been refused simply because of some technical wording, (iii) the grant of pensions to the permanent staff, and so on. In all of these cases the spirit and not the literal meaning of the rules should be observed.

(B) BUILDINGS.—The lives of the ordinary citizens have been made much brighter during recent years by the improvement in their dwelling houses, and by the institution of picture palaces and other places of cheap entertainment. Again, wages have increased, and even the old amusements are more easily obtainable. At one time the corps was looked upon as something in the light of a club, and men were glad to join so as to have somewhere to go for companionship and recreation. But the conditions have changed, and we must be prepared to offer more. An imposing building, good rooms, and opportunities for miniature rifle practice, instruction in using weapons, training in gymnastic exercises, and simple lectures in history and theory, will attract many men who have a latent interest in soldiering. Comfortless old sheds without facilities for any useful "extras" of any kind will repel them. Men have no wish to join a corps simply to learn drill, very few Regulars or Auxiliaries really like that part of military work; field-days are interesting and welcome, but they are few and far between. Men require the companionship, the atmosphere, the enthusiasm, the whole *esprit de corps* of soldiering to make them ready to perform the necessary drudgery; and after all it is these which will tell when they have to face the enemy! A man who is proud of his headquarters will take his friends to see them, and the friends will probably wish to join, for many men would really rather do something useful than stand about the street corners if the useful thing were made sufficiently interesting. Some regiments of course have fine drill halls, but most have

not, and when the building looks uninviting in fine weather, and is under water in rain, when there is no chance to shoot or fence, to talk to his comrades, nor even to read a paper, the Territorial will not only fail to bring his friends to the headquarters, but will even keep away from them himself.

RECAPITULATION.

To sum up, therefore, I would suggest as remedies for the defects mentioned at the commencement :—

(1) A longer engagement for men, an earlier retirement for officers.

A more thorough and reasonable schedule for training.

(2) Far greater facilities for attending courses of instruction.

Prompt payments (sufficient to cover all expenses) immediately on the conclusion of the course.

The requirement of greater qualifications.

(3) The relief of Territorial officers from office work as much as possible.

The simplification and reduction of returns.

The instruction of senior officers in staff work.

A larger establishment of subalterns per company.

(4) The conferring on the Territorial of some advantage over his fellow-men in return for his services, either in the form of a gratuity, or by some other means.

The recognition of all practices, classes, &c., as well as drills and parades.

(5) A provision by which specially good service will count for more than mere attendance at the minimum number of parades.

The prevention of stagnation in the case of the older officers by the restoration of honorary rank.

A check on the too rapid promotion of the younger ones.

(6) The consideration of cases of hardship in accordance with the spirit, and not the mere letter of the regulations.

The improvement of the headquarters of certain corps so that they will be attractive, and not remain such as to make the members ashamed to bring their friends there.

The extra cost of the whole of these suggestions would be under half a million for the first year, and about three-quarters of a million when the Force was at full strength, and every man was earning the maximum. That comes to from 2½d. to 4d. per inhabitant (for the Territorials will also be taxed, of course, to help pay for themselves), surely it is worth paying to avoid conscription, and I believe that it would be. I am not including the cost of repairing drill halls, for that must be borne in any case, and the amount would be much greater if the whole nation were liable for service, for much more accommodation would be needed.

Those suggestions requiring the increase in the vote could not be put into force during this financial year, but the recognition of specially good service by the grant of honorary rank, and by the extra credit given towards the requisite service for the decoration and the medal, could be introduced (or rather restored) at once, for it would cost nothing. At any rate, something has to be done, and without delay, for the decreasing numbers show that all is far from satisfactory, and that a continuation on the present lines will soon ruin what will remain of the Force after the men's terms of engagement expire. We do not ask to be let off anything. Give us more to do; but give us also some sympathetic treatment, some return, some real recognition. What we Territorials badly want is *Moral*. Let the Government show us that they regard us as a real force, and we will soon become one. Let them treat us in an intelligent way, and we will well repay the consideration. Let them turn off the Regular hose of cold water, and the Voluntary fire will soon leap up again.

BRIEF SKETCH OF THE INCIDENTS DEPICTED IN THE
FIVE PICTURES REFERRED TO IN THE SECRETARY'S
NOTES, IN DECEMBER JOURNAL, 1911. Page 1551. No. 3369.

Two of the pictures referred to represent:—

1. The engagement between the British fleet of 18 sail of the line under Rear-Admiral Sir Samuel Hood, Bart., K.B., and the French fleet of 24 sail of the line under Rear-Admiral the Comte de Grasse, on the forenoon of the 29th April, 1781, off Barbados.

2. The position of the two fleets, after the firing ceased at 2 p.m., Hood attempting to close with the French, who were to windward.

This engagement was brought about by Hood's attempt to intercept the French, and bring them to action, before they could reach Fort Royal Bay, Martinique. De Grasse had left Brest on the 22nd March, with 26 ships of the line, and a large convoy for the West Indies. A week later six of the ships of the line parted company, and De Grasse, with the remainder, continued their course for Martinique, which was sighted on the evening of 28th April. Hood, acting under orders from Rodney, was cruising to leeward and south of the island, off Pointe des Salines, to intercept them. Early in the morning of the 29th, De Grasse rounded Pointe des Salines, Hood being too far to leeward to intercept him, and stood to the northward for Fort Royal Bay, the transports hugging the coast, with the ships of war outside them, and here he was joined by four ships of the line from Fort Royal. At 10.35 a.m. the British tacked, and stood to the northward, and at 11.30 De Grasse, seeing his convoy safely in, wore and stood towards the British. An

indecisive action followed, but the French keeping the weather gage, Hood was unable to bring them to close action. The fighting ceased at 2 p.m., and Hood, after vainly striving to get to windward and close, and two of his ships being badly disabled, bore away to the north to join Rodney, while De Grasse anchored in Fort Royal Bay.

The other three paintings represent different phases of the action between the English fleet of 22 sail of the line, under Rear-Admiral Sir Samuel Hood, Bart., K.B., and the French fleet of 28 sail of the line under the Comte de Grasse on the 25th and 26th January, 1782, off St. Kitts, and in Basse Terre Roads, on the lee side of that island.

The campaign in the West Indies for the year 1782 had opened with an attack on the Island of St. Kitts, on the 5th January, by the combined French fleet and land expeditionary force under De Grasse and the Marquis de Bouillé. The original intention of the French commanders had been to capture Barbadoes, but the strength of the trade winds, against which the fleet would have had to beat the whole way, made this impossible. De Bouillé and his troops having been landed, De Grasse anchored in Basse Terre Roads on the 11th. Hood, who had been lying off St. Lucia, at once put to sea, with 22 ships of the line, many of which, however, were in a very bad state; on the 21st he anchored off Antigua, and while there laid his plans for an attack on De Grasse. On the evening of the 23rd Hood weighed and stood over towards Nevis, round the southern point of which Basse Terre must be approached, his intention being to come upon the French by surprise at early daybreak, to attack the weather ships, and from them to pass along the line so far as might seem expedient. His column, thus passing in its entirety by a certain exposed fraction of the enemy, the latter would be cut up in detail by the force concentrated upon it.

This skilful conception was thwarted by an accident, which delayed the fleet, and gave De Grasse time to weigh and put to sea.

At daylight of the 25th the two fleets were to the westward of Nevis, the French some miles to leeward of the British. Foiled in his original scheme, Hood now determined to seize the anchorage quitted by De Grasse, and so establish himself there that he could not be dislodged; for such a defensive position Basse Terre Roads offered special advantages. A brisk action followed, but Hood, in spite of De Grasse's efforts and his superior force, succeeded in his daring achievement, and by the evening, much to De Grasse's chagrin, his fleet was successfully moored in the desired roadstead. Lord Robert Manners, captain of the "Resolution," writing a week later, said, "The taking possession of the road was well-judged, well conducted, and well executed. . . . The van and centre divisions brought to an anchor under the fire of the rear, which was engaged with the enemy's centre; and then the centre, being at an anchor and properly placed, covered us in turn while we anchored, making, I think, the most masterly manoeuvre I ever saw." De Grasse's attack on Hood's anchored fleet the next day completely failed.

BATTALION ORGANIZATION

by

Brigadier-General F. I. MAXSE, C.V.O., C.B., D.S.O.
Commanding 1st Guards Brigade.

On Tuesday, 19th December, 1911.

General Sir John FRENCH, G.C.B., G.C.V.O., K.C.M.G.,
in the Chair.

IN venturing to offer some remarks upon the organization of an infantry battalion in peace and war, I trust that it may be understood that no claim is made for either originality of thought or novel discoveries. The subject is an old one, and has been mooted before in this Institution. I hope, however, that those who may have the patience to follow this lecture to the end will at least concede that a case has been made out for further investigation, and that our hard-worked General Staff may deem that the time has at last arrived when a close inquiry into the condition of our infantry battalions should be instituted.

It is only because I believe that the present is an opportune moment for reconsidering an old problem from a new point of view that I am willing to hazard the displeasure which is usually incurred by those who criticise a time-honoured institution with the object of improving it.

I agree with Captain Hereward Wake that something more than a mere preference is required to justify an important change: a change which will necessarily be applied to our big battalions in India, to the Expeditionary Force, to the Territorial Force, and to the national armies which the virile men of Australia and New Zealand are organizing by the method of compulsion.

The question can, of course, be approached from several points of view, including those of the economist and those of the academic student, but in this paper the subject will be dealt with in its practical aspect, as it presents itself to one who has commanded a battalion and a brigade and is possessed by a deep-rooted admiration of the qualities of our infantry officers.

Under existing arrangements, which are to be found in various regulations, I submit that these officers are not given a fair chance of performing their allotted task; that some of the most thoughtful of them are dissatisfied with the eight-company battalion, and wish for a change which will give more scope to leadership; and that this conclusion has been arrived at, in spite of their personal inclinations, by the logic of facts as they see them in their daily life.

Our quarrel is not only with the eight-company battalion, which we think mischievous, but also with the fact that a company

has no scientific organization to enable it to fight with advantage. A company of the Expeditionary Force cannot just muddle through somehow because our officers happen to be about the best in the world, and we assert that these same officers and their men could be made far more effective in battle, if the companies and battalions were more thoughtfully organized in Peace for War.

To give a clearer idea of my meaning, I will utter seven platitudinous military axioms, which are not put into practice merely because our existing arrangements forbid it:—

(1). The object to be achieved through organization is to facilitate, by forethought in peace, the difficult task of launching a battalion of a thousand men into battle and controlling them throughout it.

(2). Co-operative fire-tactics are the essence of good infantry work, and companies should be organized to facilitate fire tactics.

(3). The chain of command and responsibility should be clearly defined and habitually practised by all ranks.

(4). The best way to train young officers is to give them the responsibility of managing a definite command, as in the navy, the cavalry, and the artillery. The command of a half-company is not a definite command because the half-company is not a tactical or administrative unit.

(5). Every detail of mobilization should be arranged with a view to facilitate the transition from peace conditions to war conditions, without impairing fighting efficiency. To import into a battalion some six or more new company officers, on mobilization, is calculated to impair efficiency for immediate war.

(6). In an eight-company battalion the command of a section is entrusted to a sergeant in war. He should therefore train it in peace. There are 32 sections in a battalion: there should therefore be 32 sergeants in peace and war. Our present peace establishment provides only 15 sergeants to train 32 sections.

(7). It is not wise to keep 141 N.C.O.'s and men on the strength of companies if none of them will ever be available to fight in the ranks.

These plausible platitudes could be multiplied by anyone who takes the trouble to think the matter out and has experience in commanding a home battalion.

They are all violated under existing arrangements, but no one complains because it is the glory of the British officer to say nothing and to do his best. But, just think what that "best" would be, if you only gave him a fair chance of utilizing his acknowledged characteristics. He is compelled to-day to make bricks without straw, but what splendid bricks he could produce if he also had the straw! No one in the world loves responsibility and opportunities more than a company officer. This has been proved on the Indian frontier, in Soudanese campaigns, and through the length and breadth of Africa in

so-called times of peace. Why then do we deny him scope for his abilities in the training of British infantry?

Why render his task so difficult?

THE BATTALION IN WAR.

Gentlemen, we have a new situation to face in Europe, one which did not exist when our army was distributed in its foreign garrisons and made up to war strength in them. The navy as you know has recently scrapped obsolete ships and concentrated in home waters. May I suggest that perhaps the army may have to scrap some of its cherished ideas in order to face the situation in its turn? And will you permit me to say that we have now to look nearer home than the Afghan frontier, or even the Mediterranean Sea?

If we are ever to fight a great battle in Europe, we stake our fortunes upon the Expeditionary Force, and the tactical handling of the infantry of that force will be a deciding factor as far as our army is concerned. Whether we fight along side of, and in close co-operation with, a European army, or whether we undertake a separate mission, as the ally of a friendly power, it is obvious that our Expeditionary Force must be ready to take on twice or three times its own numbers on the field of battle. We did it often enough in the old days of amateur armies, raised for each war and usually disbanded at its termination, and I am convinced we can face similar odds under modern conditions, if we evolve a system of fire tactics suitable to the characteristics of our people and devise an organization calculated to develop those fire tactics. At the present moment I submit that our battalion organization is many years behind our fire tactics, that the latter are as good as or better than any in Europe, but that we are failing to develop them along progressive lines, because we are hampered and thrown back by an eight company system, which destroys the initiative of subordinates without increasing the legitimate control of superior commanders.

A battalion is, therefore, more or less in a difficulty every time it deploys for attack, and the keynote of our tactics "no movement without fire" suffers from an unconscious conflict between theory and practice. The eight company battalion was very convenient when we fought in lines of two or more closed ranks, and the commanding officer and captains could be heard by every man in those ranks. But, it is unsuitable to the wide and deep formations which modern weapons compel a battalion to assume in an attack, and it is positively detrimental to co-operative fire tactics, which are based upon the initiative of individuals in the firing line backed by the supporting fire of their comrades behind. In other words the sections advance from fire position to fire position, in the confident belief that a plan has been pre-arranged for the covering fire of all neighbouring companies. With four or more companies in the firing line this pre-arrangement is extremely difficult and is

usually neglected, because there is no time or place for four or more captains to consult one another before they act.

Let me give an illustration of what I mean:—

An eight-company battalion, just mobilized to war strength, is about to be launched in its first attack upon the enemy in a European battle.

The commanding officer has been shown his objective, less than a mile to his front, and has been detailed by the brigadier to push home the attack in conjunction with another battalion of the same brigade, and in co-operation with another brigade on the flank. He has assembled his company officers, explained his orders and intentions, and has told off four companies as firing line and support, two companies in second line, and two in reserve. He accompanies the reserve.

The senior major is put in charge of the four leading companies, and this is where the first difficulty arises. How is the senior major to exercise any useful or desirable control over four independent companies, hotly engaged with the enemy and spread out along a frontage of nearly half a mile? He has no staff and no horse, so he probably attaches himself to one of the centre companies and either interferes too much with its captain or does nothing at all. On arriving in the first fire position he *may* be able to arrange for the further advance, but it is more than likely that he will never get into touch with the outer companies on the flanks of his firing line. My point is that the senior major is, under the circumstances, a good man wasted, because he has been given an impossible task. If, however, there were two big companies in the firing line instead of four little ones, the senior major's job would be to co-ordinate the general advance, and without interfering in details, arrange with the two company commanders for mutual assistance in the difficult operation of moving forward, under the enemy's bullets, from fire position to fire position. The attack would acquire an intensity which it at present lacks. In fact our infantry could strike much harder blows.

We will next turn our attention to, and follow the fortunes of, one of the four captains in this first battle, and see how he too is handicapped by our present organization and its unmethodical chain of responsibility. This captain, probably for the first time in his life, has two subalterns under his command in action, with one of whom he has an acquaintance of only a few days. His four sections are commanded by four sergeants, two or three of whom were only promoted a few days before, namely, on mobilization. Of the rifles actually in the ranks some 60 per cent. are newly joined reservists, and a small proportion are recruits who have never done a company training. The reservists were all discharged from the battalion in India, and may never have seen their section commander or officers before. They are a splendid body of seasoned men, a little rusty in fire discipline, but capable of magnificent soldier-work under trained leadership. Nothing should, therefore, be omit-

ted which can possibly foster and develop the training of the leaders.

Now, the first problem confronting our captain is how to arrange the duties of his two subalterns to the best advantage. Each subaltern is supposed to command a half-company of two sections, but for excellent reasons the two sections are not, and cannot be, permanently the same two sections, partly because a half-company is not a tactical unit and seems only to have been invented to give a nominal command to a subaltern, and partly because the four sections of a company take certain duties in turn and do not work in fixed pairs. In fact, infantry subalterns have no definite command, no real responsibility, no permanent job, as they have in the cavalry and the artillery; and this is one of the worst features of the eight company system.

The result is that our friend the captain has to improvise at a critical moment the rôles of his lieutenants; and he probably sends forward his trained subaltern with the firing line and keeps his untried subaltern with the supports under his own eye. It is the best he can do, but is nevertheless a makeshift arrangement which is avoided in a four-company battalion, as will be shown hereafter. We can therefore leave our battalion to prosecute its attack. We hope for a successful issue to the event, but I, for one, am convinced that its success will be gained in spite of an organization which handicaps it throughout.

For the fact remains and stares us in the face whenever we look closely into the question—that the controlled action of eight independent companies in the stress of battle is a hopeless undertaking for any individual. If he holds them tight he destroys initiative. If he lets them go they lose cohesion. The solution seems to be to delegate increased powers to fewer responsible officers in command of enlarged companies. Eight units are too many for co-operative fire tactics, which necessitate a study of ground and an intelligent use of it. To arrange for covering fire, to obtain the support of artillery and machine guns, to co-operate with neighbouring units, and yet to maintain the fire fight with the enemy, all these desirable objects are rendered more difficult of attainment by eight companies than by a lesser number.

THE NON-COMMISSIONED OFFICER.

Now let us glance for a moment at the existing situation as it affects the non-commissioned officers.

Sergeants are wanted to command sections in war and they should therefore train them in peace. But, excluding colour-sergeants who have other duties, there are only 24 sergeants allotted to 32 sections in peace, and nine of these are employed as follows:—

Band sergeant.

Signalling sergeant.

Sergeant shoemaker.

Machine gun sergeant.

Master tailor.
Transport sergeant.
Mess sergeant.
Sergeant's mess caterer.
Provost sergeant.

This leaves only 15 duty sergeants for the 32 sections of a battalion, but does not exhaust the list of those who are employed away from their companies. How can anyone pretend that this is a satisfactory arrangement, when the fire discipline of a section depends upon the training of its commander?

I have a return before me of the section commanders of the four battalions of my brigade at the three important dates of company training, brigade training, army manœuvres (cancelled) this year, from which it appears that only 49 sergeants were actually available to train and command 128 sections.

Surely we ought to face these facts and not evade the issue?

Either sergeants are wanted to command sections in war or they are not. If they are wanted they should certainly train them. How, otherwise, are they to deal with the influx of reservists who will join their sections on mobilization? Year after year we very properly insist more and more upon the importance of section leadership, section fire control, section cohesion in the attack; we point out that modern battles may sometimes be influenced by the courageous commander of a single section, and we insist that section commanders are responsible for the lives of their men. The modern tendency is to delegate more duties and greater responsibility to section commanders. Yet all this time we seem to ignore the simple fact that there are not half enough duty sergeants for the sections. It is a most unwise economy and one which will cost us dear in our first battle against trained Europeans. In fact, this question of section commanders should of itself suffice to compel an investigation into our peace establishments.

THE IMPOSSIBILITY OF PROGRESSIVE TRAINING.

I now propose to point out how we unconsciously organize in peace time for disorganization in war. In fact, those of us who have to go thoroughly into this question are compelled to realize that, except during the period of annual company training, captains of British infantry have not now got a fair opportunity of carrying out their programmes of progressive training. This is a statement which can be substantiated by facts, and unfortunately the facts are painfully familiar to every infantry captain of the Expeditionary Force, and have been admirably set forth in the October number of the Journal of this Institution by Captain Scovell of the Cameron Highlanders. At the conclusion of company training and musketry, the programme very properly lays down a course of battalion, brigade and higher training, terminating in army manœuvres at the end of September. The programme is excellent, and those who do not look beneath the surface are convinced that all is for the best in the

best of all possible worlds. Special correspondents wax eloquent in the Press and Members of Parliament tell their constituents that the Army Council cannot discover a single item upon which another sixpenny bit could be usefully expended. The voice of the company officer is hushed in the land, for no one seems wishful to hear his side of the story. But let us for a moment look at it from his point of view and try to realize how his company is bled during battalion, brigade, and divisional manoeuvres—that is, during the period of its higher tactical training for war. Below¹ is a list of the various calls made at different times and in varying degrees upon the best men in the companies. It is not a mere theoretical list, but is an example of actual demands which have to be met year in and year out.

Thus instead of about 70 men on parade the company commander sees his number sink to about 40 directly after his month's training is over. Then later on they begin to rise gradually, and he realises that the new comers are raw recruits totally ignorant of field work, and with a large proportion of these he proceeds to army manoeuvres. The marvel is that the companies thus trained show up as well as they do, and this alone proclaims the power of leadership of the officers and N.C.O.'s, and the adaptability of the men. What company officer in a foreign army, where all recruits join the same day, has such a difficult task? It is true that foreign recruits are enlisted for only three or two years, but they remain for the whole of that period in the same company, and under the same instructors who train them in peace and command them on mobilization for war. Our men enlist for seven years with the colours, but are shifted from the dépôt to the home battalion, thence to the battalion abroad, are then discharged to civil life and finally mobilized into the home battalion. This seems to emphasize the desirability of maintaining a war establishment of officers and non-commissioned officers in home battalions in peace time.

¹ (1) Instructors to drill recruits. I know of two battalions which had each 170 recruits and instructors on the barrack square when their brigade marched out to train last summer, and they were not peculiar. (2) Instructors for recruits at musketry. (3) Acting bandsmen and acting drummers return to their music. (4) Signallers return to their signalling. (5) Machine gun men to their machine guns. (6) Shoemakers and tailors to their work. (7) Clerks to their offices. (8) A party of men to a mounted Infantry course. (9) A non-commissioned officer to a gymnastic course, or to Hythe, or to a garrison school, or to mounted infantry. (10) Non-commissioned officers to mark at Bisley, as gate-keepers to tournaments, pageants, etc. (11) A provost sergeant, or sergeant's mess caterer. (12) Men to the Brigade Communication section. (13) Various garrison employments of a permanent nature. (14) A subaltern to another employment, or to a course, or to India, etc. (15) The captain of the company to act as umpire, to be attached to artillery, to command the brigade machine guns, or to be galloper to the brigadier. About half the captains are thus withdrawn for one good reason or another.

THE HEADQUARTER SECTION A NECESSITY.

It is not, however, desirable to greatly alter the conditions of service of our army, and it is probable that we must stick to the Cardwell system for the infantry. My object in pointing out its inconveniences and drawbacks is merely to emphasize the desirability of lightening the task of company commanders so as to minimize the difficulties inherent in the Cardwell system. Now, one way of doing this would be to create in every battalion a Headquarter Section, under the command of the senior major, into which would be drafted all those officers, non-commissioned officers and men who will not be available to fight in the companies in war. They need not, therefore, be trained in them in peace. A table has been worked out—see Appendix—from which it appears that no less than 141 officers, N.C.O.'s and men could with advantage be permanently transferred in peace and in war to this Headquarter Section, thereby simplifying their own special work and relieving the fighting companies of tradesmen, clerks, musicians, signallers, bandsmen, etc., etc. In peace time, I advocate that certain other non-commissioned officers and men should also be placed in the Headquarter Section in addition to the 141 who will belong to it in war. The total in peace would then stand at 213—see the Appendix which gives full details.

RECAPITULATION.

Let us now summarize for a moment what has been urged so far. It will then be easier to deal with the remedies which will be put forward for consideration. My criticisms can best be tabulated under the two headings (A) those which are inherent in the eight-company battalion; (B) those which are caused by false economy or lack of forethought.

(A). *The following are due to the eight-company system as we know it:—*

- (1). Once launched in an attack, a battalion loses cohesion owing to the excessive number of its companies and sections.
- (2). The companies, being too numerous, fail to combine their fire tactics or to generate intensity of fire at critical moments.
- (3). In a company no proper chain of command is established.
- (4). Young officers do not command men, as they should. They are merely assistants and onlookers.

(B). *The remainder are the result of economy or lack of forethought, and are not peculiar to the eight-company battalion:—*

- (5). Officers and sergeants are not kept at full strength ready for mobilization.
- (6). Non-combatants are retained on the books of companies instead of being transferred to a Headquarter Section.

(7). Understudies are not provided to fill the places of unit commanders who are withdrawn for various reasons; or, when provided, it is done at the expense of other units.

(8). No provision is made for thoroughly instructing the recruits of the Expeditionary Force without destroying the programme of progressive training in the companies.

(9). The question is not squarely faced of providing military music without depleting companies of serving soldiers. There can be no decent band or drums without acting bandmen and acting drummers.

Here are nine definite criticisms, none of which are invented by me. I have looked at them for many years, but can find no solution which does not involve reorganizing the battalion. Most of the points apply to all battalions whether serving at home or abroad, but some obviously only concern battalions at home. We will therefore proceed to sketch a new organization and to indicate how it will tend to abolish or mitigate the evils complained of.

THE FOUR-COMPANY BATTALION WITH HEADQUARTER SECTION.

There is nothing new in the idea of a four-company battalion, nor is there any magic in its composition. Nevertheless, the result of clearly thinking out a system and adapting its component parts to the tasks they have actually to confront is almost magical, when we are dealing with human beings. Therefore let us build up our battalion, starting with the squad as our fire unit for war purposes. This squad should, in my opinion, be commanded by a corporal, and should consist of one lance-corporal and ten to twelve rifles (privates). That is the greatest number of men whose collective fire can be controlled by one non-commissioned officer. In this paper I am taking the squad at :—

	1 corporal.
	1 lance-corporal (unpaid).
	10 privates.
Total	12

Four such squads would be a convenient number in a section, commanded by a subaltern. He should have a sergeant to assist him and take his place whenever he is absent. He will be held responsible for the training and well-being of his section, under the personal supervision of the company commander.

Four such sections will make an admirable company, commanded by a major (mounted) with a captain as second in command, who should be specifically in charge of company administration. A colour-sergeant, a quartermaster-sergeant, one lance-sergeant, and other details will complete the company staff. Total war establishment all ranks 224, as shown in the table given below.

There should be four such companies in a battalion, commanded by a lieutenant-colonel, with the senior major as second in command who should be specifically in charge of the Head-quarter Section (141 of all ranks) see the Appendix.

To simplify reference I give the war establishments of a company and a battalion on this page.

It will be noticed that the proportion of officers to men remains unchanged in the companies. This is an essential feature of the new scheme. If a four-company battalion entailed a reduction in the present proportion of officers to men, I would oppose any change on that ground alone.

WAR ESTABLISHMENTS. An Infantry Battalion.

<i>Detail of one Company.</i>	Personnel.				
	Officers.	Warrant Officers.	Staff Sergeants and Sergeants.	Rank and File and Drummers.	Total.
Major	1	—	—	—	1
Captain	1	—	—	—	1
Subalterns	4	—	—	—	4
Colour Sergeants	—	—	1	—	1
Quartermaster Sergeant	—	—	1	—	1
Sergeants	—	—	4	—	4
Drummers or Buglers	—	—	—	4	4
Corporals (1 Lance-Sergeant)	—	—	—	17	17
Privates	—	—	—	191 ¹	191
Company total	6	—	6	212	224
<i>Detail of one Battalion.</i>					
Head Quarters (see Appendix)	6	1	13	121	141
Four Companies	24	—	24	848	896
Battalion Total	30	1	37	969	1037

The above battalion total of 1,037 compares with the present authorized total of 1,016, and involves an increase of 21 only

¹ The 191 privates of a company are made up as follows:—

Unpaid Lance Corporals	16
Rifles (16 squads of 10 rifles each)	160
Drivers for pack animals	4
Stretcher Bearers	4
Groom to Major	1
Batmen	6
Total	191

THE PEACE ESTABLISHMENT.

The difference between peace and war establishments will be that in peace the number of privates, as given above, will be greatly reduced. The other ranks will remain unaltered, so as to retain our chain of command, a priceless asset on mobilization. And here a question may be interpolated to which I have never seen an adequate reply. Our present peace establishments allow for a battalion serving abroad—29 officers and 46 sergeants, but for a battalion at home only 25 officers and 39 sergeants of all kinds.

Yet just consider the situation of each on the outbreak of hostilities.

The battalion abroad departs for the war with seasoned men, not a single recruit, not one reservist, no chain of command snapped, all in apple-pie order. Good! But the battalion at home, short of officers, short of sergeants, short of men, with the barrack square crowded with recruits, has nevertheless to incorporate into its ranks, on mobilization, 400 to 600 reservists at one day's notice, and then go and fight for its life and for England's life within a couple of weeks. Can anybody call it either reasonable or excusable to allot such a task to a home battalion, and yet deny it the staff which is indispensable to a foreign service battalion? *Quem Deus vult perdere prius dementat*. So much for the war situation: but how does the matter stand in peace? Why, in peace time the home battalion wants officers and sergeants more than the battalion abroad, for the simple reason that its time is spent in training young soldiers, and fitting them to go abroad. And this is another reason for suggesting that our future organization shall retain its full *cadre* in peace time, and that the peace reduction shall be in privates only.

At this moment, the peace establishment allows 680 privates to a home battalion and I propose to retain it at that. The battalions abroad to have the war establishment of all ranks as detailed above, or as they now possess.

Thus my proposals amount to an alteration in the peace establishment of battalions of the Expeditionary Force as follows:—

Increase, Officers—5 subalterns.

Increase, 32 corporals, of whom 4 will be in headquarter section.

Decrease, 2 sergeants.

THE BIG COMPANY AT WORK.

Having established these fine big companies, and provided them with a logical chain of command from major to corporal, we must see to it that the company commanders of the future be given a free hand to train their units on their own lines throughout the year, under the personal supervision of the commanding officer. At present, a captain may be said

to command his full company during only one month, after which it dwindles away, and loses cohesion during eleven months. No individual is to blame for this unfortunate state of affairs, which is the outcome of a battalion system instituted many years ago for a totally different set of conditions. To illustrate the working of this system, let us take a concrete example from every-day life.

Officers must have winter leave, and N.C.O.'s and men furloughs, all of which are at present arranged for in the battalion orderly room. But under our new organization nothing should be settled by the battalion commander which could be better left to the discretion of the company commander. Thus the officers' leave, and the men's furloughs could be worked in and out, so as to interfere as little as possible with winter training. No one but the company commander is in a position to arrange these matters to the general convenience of all ranks and the consequent efficiency of the service. Then again, section training, now neglected in home battalions, could become a feature of the winter work, when the subaltern would take charge of his section at full strength, and learn to instruct it in elementary subjects. He would consequently be more fitted than he is to instruct and command men. Moreover, he would be always dealing with the same men, instead of being shifted about from company to company as is unavoidable with eight companies kept permanently short of four subalterns, on the present peace establishment. I know of no individual more capable of rising to the occasion than the British subaltern when he is given a real job to do, but under present conditions, he has few opportunities of showing his value. The little company as we know it is a "one-man" show, and if it happens to be commanded by an exceptionally able captain, the result is wonderful, considering his difficulties. He makes superhuman efforts, and grapples daily with the inconveniences of our faulty organization, but the same energy might well be devoted to a better cause. Yet how often have we seen such a company fall to pieces as soon as its exceptional commander leaves it? Our big companies, on the other hand, will depend for their efficiency not only on a good major and a first-rate captain, but also on the quality of four section commanders; and the battalion C.O. will be afforded a real opportunity of judging the merits of his subordinates, and forming an opinion as to their fitness for promotion.

INCREASED RESPONSIBILITIES INVOLVE INCREASED POWERS.

If the commander of the enlarged company is to produce a really good result, he must no longer be treated like a child. Men are made or marred by the treatment meted out to them by their superiors. Under existing regulations, majors commanding companies, that is to say, men of upwards of 15 years' ser-

vice, are not trusted to appoint a private to lance-corporal, or even to reduce an inefficient lance-corporal to the ranks. We must therefore, postulate for increased powers of reward and punishment if our majors and captains are to command and train companies of 220 men, and convert them into a fighting machine. This applies with particular force to battalions serving abroad, and completed to war strength.

With these increased powers, it stands to reason that either the major or the captain must always be available for duty with the company—not any major or any captain, but *the* major or *the* captain of the company. This means that majors must in future be promptly seconded on appointment to the staff, and necessitates the speeding-up of the machinery of promotion, especially in battalions abroad. Perhaps the electric telegraph might come into more general use for this purpose?

THE RECRUITS OF THE EXPEDITIONARY FORCE AND ACTING BANDSMEN AND DRUMMERS.

We now come to two points which are not in any way connected with the system on which the battalion is organized, but nevertheless affects the efficiency of companies, whether they be eight or four. As regards recruits, what we should like for the whole army are the conditions which obtain at the Guards' Depôt at Caterham, whereby no recruit is allowed to leave the depôt until he is actually fit to take his place in the ranks of his company. This result is produced in the maximum time of 16 weeks. Thus, in battalions of the Brigade of Guards there are no squads learning to salute on the barrack square. But this, unfortunately, is not the rule in the majority of Line Battalions, owing partly to the lack of accommodation at their depôts, and partly to their inadequate staff of N.C.O.'s. We must therefore discover some alternative method for dealing with the incubus of the untrained recruit after he joins the battalion. This we propose to do, in a partial degree, by means of the Headquarter Section. A reference to the Appendix will show under the heading, "Peace Establishment. Proposed additions:—Recruit Training and permanent employ 4 Sergeants, 50 Rank and File." A portion of these N.C.O.'s will be selected for their special aptitude for teaching barrack square drill and elementary musketry. Their particular duty will be to train such recruits as are not yet sufficiently instructed to join the ranks of their sections, and we shall thus avoid the withdrawal of section and squad commanders from their legitimate work.

As regards acting bandsmen and acting drummers, all of whom are taken out of the ranks of the companies, I think the time has come for facing a delicate problem, and on the whole my views coincide with those of Captain Scovell, as given in the October number of the Journal of this Institution. But, as he has not suggested a remedy for the evil, I will venture upon a proposal.

We infantry soldiers look upon the Drum and Fife (or Pipe or Bugle) Band as of the very essence of soldiering. No old soldier can hear it unmoved. We want to hear it constantly in peace and in war, but its authorized establishment must certainly be increased, say to 30 of all ranks including boys. No acting drummer should then be permitted.

The Brass Band is a different story. Its authorized establishment is 21, but no good music can be produced by this number, which is usually inflated to over 50 by stealing men from the companies, and calling them acting bandsmen. We thus have over 7,000 men in the British infantry employed in making music, in addition to the Drum and Fife Bands. Can we afford it in these days—not so much from the point of view of money as of the expenditure of men? Would it not be wiser and more economical to substitute for these 146 infantry bands a much smaller number of permanent stationary bands, enlisted as musicians only, in our various military garrisons? The officers and men would hear them oftener than they do the existing ones, which are perpetually absent fulfilling civilian engagements. How would it be to attach to the headquarters of every division a magnificent band of 60 musicians, and allow travelling expenses for out-stations under certain limitations?

CONCLUSION.

When the tentative suggestions which have been put forward to-day have been investigated and sifted by the General Staff, I am confident that it will be found that the main proposals can be carried out without any great expenditure of money or grave disturbance of individual officers and non-commissioned officers. With careful forethought the changes could probably be brought about in the course of a week, and if the selected week were either before the commencement or after the termination of collective training, the inconvenience would be reduced to a minimum. The necessary corrections in our various military manuals need not constitute a serious difficulty, and the experience gained after the transition would enable us to amend future editions with advantage.

Let us now look at a battalion as it will stand under its new conditions in the Expeditionary Force of the future. In war we claim for it primarily a capacity to strike hard, and strike with cumulative intensity throughout an attack, by reason of the cohesion which its commanding officer will maintain between his four companies, and by reason of the co-operative fire effect of the sections in the firing line.

We claim that by transferring tradesmen and others to a permanent headquarter section, we shall free the companies of an incubus which paralyses their wellbeing for eleven months in the year, yet compels them during the twelfth month to train non-commissioned officers and men who will never fight in their ranks. We claim that the new companies and sections will be

organized military units, capable of performing duties, undertaking fatigues, and mounting guard under their own officers and non-commissioned officers, instead of being broken up, as they inevitably are at present, whenever a detail has to be provided. We wish to break through over-centralization in the orderly room, and delegate more power, responsibility and opportunity to the companies.

We claim, by the method of a logical and simple chain of command from the C.O. to the private, to facilitate the supreme act of mobilization, and enable our infantry to pass from peace to war without confusion, and to incorporate their reservists without indigestion.

We claim that, notwithstanding the ever-increasing extra-regimental duties of peace and the inevitable losses occasioned by war, every unit commander, from corporal to colonel, has his second-in-command on the spot, trained in his ideas and ready to step into his shoes: yet these substitutes are each allotted specific duties for which they are continually held personally responsible.

Finally, we commend this scheme to the consideration of the higher authorities with the conviction that they will sooner or later adopt its general principles. We officers who are daily concerned with the training of troops are beginning to realize how much has been done for us during the few years that have elapsed since the General Staff came into being. We recognize how immense their task has been in re-organizing the higher commands of the army, and in modernizing our methods, and we are lost in admiration of their latest production, the Manual of Infantry Training. It breathes the true spirit of British infantry, and has dissolved any doubts we may have had regarding co-operative fire tactics. We hope the General Staff can now turn their attention to battalion organization, and thereby greatly increase the fighting value of our infantry.

My last word will be—either do this thing quite thoroughly or do not touch it at all.

APPENDIX.

WAR ESTABLISHMENT.

Headquarter Section for All Battalions.

Detail.	Officers.	Warrant Officers.	Staff Sergts. & Sergts.	Rank & File.	Total.
<i>(a.) - Allowed for by existing regulations in war only ..</i>					
Lieutenant-Colonel	1	—	—	—	1
Major	1	—	—	—	1
Adjutant	1	—	—	—	1
Quarter-Master	1	—	—	—	1
Signalling Officer	1	—	—	—	1
Machine Gun Officer	1	—	—	—	1
Sergeant Major	—	1	—	—	1
Quarter Master Sergeant	—	—	1	—	1
Orderly Room Clerk	—	—	1	—	1
Sergeant Drummer	—	—	1	—	1
Pioneer Sergeant	—	—	1	—	1
Sergeant Master Cook	—	—	1	—	1
Transport Sergeant	—	—	1	—	1
Signalling Sergeant	—	—	1	—	1
Sergeant Shoe Maker	—	—	1	—	1
Transport	—	—	—	10	10
Orderlies Medical Officer	—	—	—	2	2
Batmen	—	—	—	6	6
<i>(b.)—Proposed additions—</i>					
Officers' Mess	—	—	1	3	4
Police	—	—	1	6	7
Sanitary Squad	—	—	—	9	9
Pioneers	—	—	—	10	10
Signallers	—	—	—	32	32
Machine Gun Section	—	—	1	14	15
Band (stretcher bearers)	—	—	—	21	21
Buglers	—	—	—	2	2
Colour Sergeant	—	—	1	—	1
*Quarter Master Sergeant	—	—	1	—	1
*Officers' Grooms	—	—	—	6	6
Total for War	6	1	13	121	141

* The colour sergeant and quartermaster sergeant are the staff of the Headquarter Section which will not be an easy unit to administer owing to its varied employments. The colour-sergeant will also be musketry instructor.

PEACE ESTABLISHMENT.

Headquarter Section for Home Battalions.

Detail.	Officers.	Warrant Officers.	Staff Serjts. & Serjts.	Rank & File.	Total.
<i>Total for War, (a) and (b) above, less 6 transport men ...</i>	6	1	13	115 ¹	135
<i>Proposed additions in peace only—</i>					
Band Master	—	1	—	—	1
Band Sergeant	—	—	1	—	1
Orderly Room Sergeant ...	—	—	1	—	1
Sergeant Master Tailor ...	—	—	1	—	1
Officers' Mess (additional) ...	—	—	—	2	2
Sergeants' Mess	—	—	1	2	3
Clerks	—	—	—	4	4
Quarter Master Staff	—	—	—	3	3
Workshops	—	—	—	8	8
Recruit training and permanent employ	—	—	4	50	54 ²
Grand total for peace	6	2	21	184	213

¹ This will be only 115 in peace because 6 transport men required in war are not wanted in peace.

² This will be the maximum allowed; it will be less in some stations and will be regulated by local conditions, under orders of the G.O.C.

NOTE.—Every N.C.O. and man in the above Headquarter Section will, if he has less than 5 year's service, be attached temporarily to a company during its period of company training; when he has over five years service this attachment may take place or not, at the discretion of the commanding officer.

Every N.C.O. and man in the Headquarter Section will, if he has less than 12 years' service, perform an annual course of musketry unless specially exempted; when over 12 years' service his musketry will be at the option of the commanding officer.

DISCUSSION.

Mr. C. Harris, C.B., (Assistant Financial Secretary, War Office) : I have been invited to say a few words on the financial aspects of General Maxse's proposals. I should like to say, first of all, how profoundly I feel that the object we all have at heart—i.e., the production of the maximum military efficiency from a given sum of money—is to be attained not by concentrating more and more attention upon the control and regulation of the details of expenditure, but by the study of organic problems such as those that have been brought to our notice this afternoon.

THREE CATEGORIES OF PROPOSALS.

A long experience of proposals for military reform leads me instinctively to classify them under three heads. First of all there is the reform that gives you increased military efficiency for less money. I need hardly say that I welcome that with open arms. These two things are not so incompatible as might seem at first sight, because I think if we look at the actual experience of the last five years we shall find that whereas the Army Estimates have been very substantially diminished, the total military power of the country stands higher than it did either when we went into the South African War or immediately after it.

Then comes the second class of reform, which gives more efficiency for the same money, and that also I welcome. Then one comes to the third class, and that is the reform that gives increased military efficiency but at the cost of greater expenditure, and to that my instinctive attitude is necessarily a little colder.

In speaking in the first person I am not representing my individual opinions, but am speaking for my Department as the focussing point for the collective wisdom of the Army Council when it devotes itself to financial problems. The problem constantly before the Council is to provide for a highly elastic expenditure out of a very inelastic income, and it is a sufficiently anxious problem at the present time, and indeed at any time. I have no secrets as to the intention of the Government to divulge, as to whether there is to be in the near future an increase in the Army Estimates or whether there is not, but I will put it in this way: that, even if there is an increase, the advocates of any particular reform would do well to present their case as though they could not count on the increase being devoted to the reform they had at heart, because whatever sum of money is available, it is ultimately a great military question whether the particular reform under consideration is the best possible way of expending that sum. I am aware that that is rather a heavy clog to attach to the leg of any reformer, but in this imperfect world I am afraid there is absolutely no escape from it.

THE COLONIAL BATTALION ESTABLISHMENT.

Coming to the proposals that have been made this afternoon: To bring the Colonial Battalion Establishment up to war establishment or, what is practically the same thing, to Indian establishment, would be to add 100 rank and file to each of 22 colonial battalions. I will not attempt to deal now with the recruiting problem which that would produce, the question whether we could get, with our present recruiting machinery, the necessary number of men to maintain the larger force. I will simply say that if you add 2,200 rank and file of the infantry to the army you add a cost of something in the neighbourhood of £125,000

a year, which is a sufficiently substantial sum. The difficulty of dealing with the infantry is that it is a big body and that directly you attempt to do anything to it the results are on a large scale. What struck me in listening to the paper was that after all that recommendation was something in the nature of an *obiter dictum* rather than an organic part of the reforms proposed. The essence of the paper is, I think, the Home Battalion, and if I may presume to make a suggestion it would be that General Maxse will be well advised not to attempt to drive those two coaches abreast, but should allow the question of the Colonial establishment to fall behind and deal with the Home establishment first.

THE HOME BATTALION ESTABLISHMENT: OFFICERS.

Coming to the Home battalions, the first question is as to officers. Of course if we give 30 officers to the Home battalion of the line we should have, ultimately, to give the same abroad and in the Guards. That means, therefore, a total increase of about 400 officers. Now, it ought to be easy to say what that increase would cost, but as a matter of fact it is not at all easy, and the first difficulty arises from the pension question. Officers' pensions are a very important subject, on which I have occasion to reflect a good deal and which causes considerable anxiety. The pension votes are growing at the rate of £40,000, £45,000, or £50,000 a year, and with an inelastic income, that creates a very serious position. To put it somewhat picturesquely you might say that the pension votes are eating up the firing line of the Army at the rate of one battalion or one brigade of artillery every year. Therefore it is difficult to exaggerate the importance of this pension question. Now it is possible no doubt to arrange to add 400 officers on such conditions that none of them would ever see a pension. I do not mean that the 400 particular individuals would not receive pensions, but that no more pensions would be given to officers than are given at present. If that can be done the pension cost falls out. But I think there would be grave difficulties in the doing of it, because what it really means is that you would be decreasing the average expectation or remuneration of the Army officer, and standing as we stand to-day I doubt whether that is a practical proposition. A similar question arises as to the ranks that these extra 400 officers should be allowed to attain. It is possible to say that they should be always second lieutenants, but if you say so it means that the time before the average man gets his step to lieutenant will be so much increased. There is already a tendency to demand that the step from second lieutenant to lieutenant should be given after a certain lapse of time and not by promotion to fill an establishment. You will intensify that difficulty if you add all these officers in the rank of second lieutenant only. However, putting it very roughly, I may say that if the officers to be added have the same expectation of pension as the officers now in the Army, in corresponding regimental ranks, the cost would not be less than £300 an officer, or £120,000 a year. If you can so contrive that those officers fall out without drawing a pension then you may put the cost at about £50,000 a year. That again is without going into any secondary question as to the difficulty of getting officers enough to fill the present establishment at our present rates of pay, or anything of that sort.

THE HOME BATTALION ESTABLISHMENT: RANK AND FILE.

Then we come to the corporals, lance-corporals, and sergeants. I think, if I may say so, that while the paper was absolutely clear on

the subject of war establishments, which were the establishments with which General Maxse was primarily dealing, it was not perfectly clear to me on the subject of peace establishment—whether the net result of the changes was to be an addition of 30 men to the Home battalion in the rank of corporal, or whether 30 existing lance-corporals were to be made into corporals and not—so to speak—replaced among the privates. If there are 30 men to be added to each Home battalion it comes to very much the same sum of money as adding 100 men to each of the Colonial battalions, something like £125,000 a year. But I imagine that General Maxse does not propose that, but really proposes to readjust the ranks within the existing total peace establishment of a battalion. If that is so, the effect of making 32 corporals, reducing two sergeants, and totally abolishing the paid lance-corporal—always supposing they are practicable propositions—would be about £10,000 a year. That I think gives very roughly the immediate financial effects of the proposals that have been made, and that is really all I have to say on the subject.

But before sitting down I would go back one moment to my classification of reforms under three heads. The third head, namely, the class of reform that gives you increased military efficiency for increased expenditure, is sometimes capable of being converted into the second class, which gives you still increased efficiency, but for no greater expenditure than at present. Now, when different propositions for changes in the Army are in competition, the second class has an enormous advantage over the third, and the final question I would suggest to General Maxse is whether he can so re-cast his scheme as to bring it from the third class into the second.

Major-General H. W. Lawson, C.B. (G.O.C. 2nd Division): I rise to express my entire concurrence in and support of what the Lecturer has so ably put before us to-day, and I base that upon what I have read and seen of active service and on what my experience has been in commanding a brigade of infantry and my present command of a Division. The matter the Lecturer has dealt with comes before us every day of our lives, and I think the picture he has drawn is not a bit overdrawn. I thought it would be interesting, two days ago, to find what view some of those in my command took of the proposals. My two brigadiers were away so that I could not consult them, but I consulted the colonel of the General Staff, my D.A.A.G., my two brigade majors of infantry, both rising experienced staff college officers with war experience, and the eight battalion commanders, and it is interesting to state that four of the eight battalion commanders were in favour and four against it, and all the staff officers and myself were in favour of the scheme.

RESPONSIBILITIES OF OFFICERS UNDER THE SCHEME.

As far as I could understand, I think you will find the real objection on the part of the battalion commanders and company officers against the scheme is that they think the officer will suffer by being delayed in arriving at the rank of commanding a company until he is a major. I do not think there is any real ground for that, if they only consider the facts, because you have to take the officers as a whole. Under General Maxse's scheme the subaltern officer will undoubtedly have a demand and responsibility thrown upon him in a way he has not got at present, and in that way he will be very much like the present subaltern of the artillery and cavalry. It is true that when he becomes a captain he will become second in command of a larger organization, but there he is

on exactly the same footing as the captain of artillery, who does not find that a dull position, or the captain of a cavalry squadron. It will be an opportunity for him to attend courses and fit himself for the higher responsibilities when he becomes a major. It has also to be remembered that he will have a great deal of interesting and useful work to do in supporting his major. I believe that what we want, as far as the officers are concerned, in order to convince them, is to show that under this scheme the officer himself, right through his service, will have more experience and that his work will be more interesting.

With regard to the scheme itself, of course there will be objections to it; there has never been a reform worth carrying out to which people have not made objections. These things are all a matter of the balance of advantage, but I feel confident that if you sum up the pros and cons, the balance is entirely on the side of General Maxse, and I do hope that those who take his side will remember that objections exist only to be argued against and overcome, and that when people stand up and point out objections they should not think that the mere fact of these objections existing is a proof that the scheme is not a good one—I believe the balance of argument to be in favour of a four-company organization.

Colonel the Honble. F. Gordon, D.S.O., General Staff Officer, 1st Grade, 2nd Division, said he had spent over thirty years in the army, and twenty-two of them as a regimental officer in the infantry, and served as an adjutant, company officer, and commanding officer, and he therefore knew something of the British infantry and the present organization. The British infantry with the eight-company organization, much as they loved it, was, he believed, not constituted for modern war. He supposed that 100 years ago, when the third rank of the British infantry was dropped, and the British infantry was formed for the Peninsular War in two ranks, the old soldiers who fought under Abercrombie in Egypt must have objected to the loss of their third rank, but by the time they got to Toulouse they had seen the advantage of the two ranks. He was prepared to give up the eight-company organization they had had for so long because he honestly believed that in the four-company battalion they would have something very much better.

THE SECOND CAPTAIN.

Some commanding officers were rather prejudiced against the proposed change because they thought the second captain would be a cipher. He used to think that himself four or five years ago, before he went to Aldershot, where for four years his battalion trained in double companies. After that experience, he had no hesitation in coming to the conclusion that the second captain, if there was one—there was very often not a second captain—did not become a cipher, but his work became very much more real. They must remember that neither the British major nor the British captain, in the infantry, remained permanently with his battalion; one day he was off to Egypt, another day an officer was going to the Territorial Force, or to the Depot, or to West Africa. All these various forms of extra-regimental employment were of enormous advantage to the armed forces of the Crown as a whole, and to the individual officers, and they gave the captains most valuable experience. General Maxse's proposal did not mean that the captain was to be tied to the apron strings of the major. The major would be very lucky if he had him at his apron strings, he was much more likely to have one of the subalterns instead.

THE HEADQUARTER SECTION.

The only vital detail upon which he did not quite agree with General Maxse was the "Headquarter section." He was inclined to think that to have a battalion "Headquarter section" would be to have rather an unwieldy formation. He quite admitted that something of that nature was required, but he thought it was on too large a scale, and he would suggest that each of the four new companies should have a company headquarter section, in which the men who were not strictly available for service in each of the four fighting sections should be kept together, and looked after by the captain of the company. He did not wish to see the senior major or second-in-command of an infantry battalion saddled with an enormous mass of men such as the battalion headquarters section would be, which he would have to look after more or less. The senior major had other duties to perform, and if he did his work he was much better employed in helping his commanding officer.

MOUNTED COMPANY COMMANDERS.

Objections had been raised to the four-company commanders being mounted. People said that it was no use to increase the numbers of mounted officers because everyone would dismount when the battalion came under fire. That also he admitted, but he was thinking of the time when a battalion was not under fire. Active service did not consist entirely of battles, there were long marches, outpost duties, advance and rear guards, and so forth, and the advantage of having four mounted officers whom one could summon to explain how the deployment was to be carried out before one came under fire, would be enormous. One could not do that at present; one had, for instance, to wait until the captain of the rear company came up, or else to explain it to the company commanders one by one as they came up. If they were all of them mounted, one could easily assemble them at once, ride forward to reconnoitre, then form one's plan of attack, and the whole thing could be satisfactorily started. For tactical and administrative reasons, therefore, he was decidedly in favour of a four-company battalion.

Major-General W. P. Campbell, C.B. (G.O.C. 5th Division): We have had discussions of this sort many years ago, and I have always made it plain that I am dead against the four company battalion. Sir John has very kindly said before that I have always stuck to my opinion. I have had the experience of commanding a battalion of over 1,000 men in the late war, and I have also once seen a battalion of the Bedfordshire Regiment which came to my brigade at Aldershot, a battalion that was formed in four companies, and I could not see anything in that battalion's working that showed it was any better than the eight company battalion. The only good, if any, that I could see was in the interior economy. When this question was raised in 1905, I was very strong against it and I should like to read one or two of the points then made. In the first place we are cramping the individuality of four of our present company commanders; that is to say, if we adopt the four company battalion, an excellent, very zealous captain may find himself under a senior not nearly so capable or energetic, and thereby may lose his keenness, his individuality, his self-reliance, and his initiative. Again, it may take a man fifteen years to become one of the four company commanders, and all this time he is in a subordinate position and losing his sense of command, and I consider that when tried in the field he will not be nearly so good a man as he would have been if he got command of a unit after

eight or ten years' service. Then everyone likes to run his own show, and the earlier in life this chance is given, in my opinion, the better a man will be. Again, with eight companies a commanding officer can find out more easily if a man is of any use to command than he can with four. Those were some very strong points which were made at that time, and the Chairman and I have always had words about them whenever we met; but still I stick to those opinions.

THE WORKING OF DOUBLE COMPANIES.

With regard to the working of double companies in toto, I am of opinion that the smaller the army the smaller should be the unit. In war time double companies will be at least 200 strong, and that is too much for one man to command, especially when he has to get off his horse at probably 1,500 yards from the enemy. In an attack we lose an enormous amount of elasticity, and four double companies are more unwieldy than eight. On outpost duty the line held, especially at night, would be too much for one commander to look after properly, and the same applies to wood fighting. Also there is an enormous amount of "*esprit de company*" in the British army, and it would be a great pity to do away with it. I am quite certain that if you have 200 or 250 men to look after in an outpost line it is too much for one major to do. I noticed that very particularly in the late South African War. Some of us perhaps are getting past our prime, but we have seen the thing happen in war and in peace, and I am quite certain we had better stick to the old eight company battalion. Perhaps we might have seven ordinary companies and one headquarter company, but I am quite certain we ought to stick to the eight company battalion instead of adopting the four.

Major G. C. M. Sorel-Cameron, Q.O. Cameron Highlanders, said that in spite of the eight-company system a battalion was generally organized, for purposes of communication and control, into four double companies, both in attack and in defence. Under modern conditions of tactics the less the number of units to whom orders and explanations had to be given the better and quicker the results. It was the custom in the infantry for the companies to take their turn daily at the head of their battalion; consequently, with the double company organization, no two companies were ever together, or commanded by the same officer on two successive days. Supposing a battalion was acting as an advance guard, the two companies forming the vanguard were either commanded by the senior captain or by an officer specially detailed to command them, generally the senior major. Under the scheme suggested by the Lecturer there would be a compact unit with its own commander and officers ready for the task.

DIFFICULTIES OF CONTROL.

The difficulties of exercising control of the first line of companies deployed in the attack, under the present system, were enormous. By control he meant general control that could be exercised in the sending forward of supports and reserves into the fire line and the meeting of counter attack. This would be a difficult matter at any time under fire, but as it was laid down in the training manuals that the longer control could be exercised the better, why not organize with a view to obtaining it up to the last possible moment?

THE BATTALION IN THE DEFENCE.

Considering next the case of a battalion in the defence. Under normal conditions half became the firing line and supports, half local reserves. With the eight-company organization the battalion commander had to divide his portion of the defensive line into four parts; with a four-company organization he had only to halve it, a much simpler matter. Into whatever detachments the commander of one of these four companies might wish to divide his unit, each had its commander, because from the major, to the corporal in command of a squad, everybody had got his second in command. Divide that big company into half and you got 3 officers and 8 squads to each half, just as elastic an organization as the present one, but with this great advantage, that instead of having a scratch double company which had not been trained together you had got two halves of a complete unit, which, from having been trained as a whole, were one in thought and action.

EIGHT UNITS OR FOUR?

In conclusion he would like to ask those in favour of retaining the eight-company system whether they considered eight units or four the best organization for exercising communication and control in the field? Would any brigade commander like his brigade to consist of eight small battalions instead of four large ones? Would any divisional commander prefer an infantry division organized in six small brigades instead of three large ones as at present? The principle was the same whatever the size of the unit.

The eight-company system had not been tested by the British Army in European warfare since the days of the Crimea, when they still fought in two ranks shoulder to shoulder. Since that time all the big Continental armies had been organized on the four-company system. The latter system had been tested in war, both with close formations (1870) and with modern extended formations (1904). As a result of the test of war the nations which had adopted the four-company system were retaining it. The argument that the latter system had only been adopted because it economized officers, was an argument in its favour. For if a big company could be handled satisfactorily with less than the number of officers proposed by General Maxse, it stood to reason that it would be more efficiently handled with the actual number proposed by him.

Captain R. J. Kentish, Royal Irish Fusiliers, said he believed the chief cause of trouble in the Home regimental system was the want of men in the ranks for training purposes. But did General Maxse really mean that he could get more men by his four-company system? He understood him to say that the establishment in peace time, with the four-company system, would be the same as to-day, 680 privates. Deducting from this the headquarter section (184 privates), there remained 496 men, making four companies of 124 each. The four sections of a company would have 31 men each and these would give four squads of 8 men each. General Maxse had made no mention of recruits, of which there was always a permanent number, generally about 15, in each company. In a four-company system there would be double, say, 30, and these, spread over 16 squads, would bring the squad down to about 6. Then again, there were always men wanted for transport, mounted infantry, and other courses, and so General Maxse's squads would be practically brought down

to nothing! He could not really see how this four company system was going to give a company officer any more men than an eight-company system.

THE POSITION OF THE CAPTAIN.

The captains to-day had very little responsibility and would like a bit more. But General Maxse proposed to take away the bit they had now and to give them practically nothing in return. He would like to see a reformed eight-company organization, and he believed that if a Commission could be appointed, to consist not only of Staff Officers, but of some regimental officers with 15 or 16 years' service, they would eventually evolve, not a perfect eight-company system, but something very much better than what they had to-day. And if this could be brought about without any change in our present organization, the great majority of regimental officers would be devoutly thankful.

Captain A. H. Mackintosh, Q.O. Cameron Highlanders, said that the indefinite nature of a subaltern's command under the present system was not only unsatisfactory, but might become a positive danger. The section commander's initiative was cramped by the knowledge that he was under a control with which he was not in immediate touch.

Some company commanders, realizing this defect in the system, discouraged their subalterns from acting as half-company commanders and used them rather as their immediate assistants; this was a great waste of power, which General Maxse's scheme would go a long way to obviate.

He would like to see the principle of giving each regimental leader an understudy extended to clerks and quarter-master's assistants. At present these men were merely on loan from their companies, and did their training like other men. But when mobilization was ordered, all these assistants, to the full number, would be required in their respective offices in the orderly room and the quarter-master's office. It must be remembered that on mobilization a battalion had to send at least two fully qualified clerks to *each* regimental depôt; also, a detail company had to be formed, and its commander had to take over a lot of documents from the orderly room and the whole of the quarter-master's department, including his equipment and clothing. It was absolutely necessary that he should have a fully qualified staff. The organization of a battalion should provide for understudies in these departments, and he thought that the formation of a headquarter section would give facilities for some continuity in the training of this important personnel.

Captain H. Wake, D.S.O., K.R.R., said that the proposal to collect all the specialists—signallers, stretcher bearers, band, and so forth—into a headquarter section under a commanding officer was a very attractive one at first sight, but it appeared to him that it might be carried too far. As these remarks applied equally to an organization of eight companies as to one of four he hoped they would not be taken as an objection to a four-company organization.

THE HEADQUARTER SECTION.

For work in the field they might either make each company self-contained and self-supporting, or they might leave it with only its fighting men and collect all the specialists under the commanding officer. He submitted that although in battle there were no doubt advantages if the commanding officer could have all the specialists under his hand—his signallers, for instance—and distribute them as the exigencies of the

moment might demand, yet, in war, so far as interior economy and administration were concerned, this arrangement was not so convenient; and there was nothing in the present system which prevented these specialists from being used collectively when occasion demanded. In peace there were several serious objections to this headquarter section which it would be well to point out. First, it did not solve the "employed man" difficulty, for the Lecturer admitted that they must be attached to other companies for training, and this would, apparently, involve more unsatisfactory arrangements than the present system did, both to the company commanders and to the adjutant. They must be relieved by men of the fighting companies, and therefore the officers would not have their men with them. Secondly, specialists were never permanent, and when they returned to duty they would be inadequately trained. There would, also, be continual transfers from the headquarter section to the companies and vice versa. Thirdly, the reservists who belonged to the headquarter section when with the colours, would come back into the ranks on mobilization as ordinary fighting men, and would be inefficient as such because they had not received the same training. Again, the men belonging to the headquarter section would lose much of the interests of daily life in barracks. They could not be allowed to take part in the shooting competitions and games, etc., with the others because they would win everything, having over 200 of the best men in the battalion. With regard to discipline, pay, clothing and interior economy generally, this section commanded by the senior major and run by the adjutant assisted by the signalling officer, the machine gun officer, and the quarter-master, would present endless difficulties, especially as the personnel would be continually changing. He would like to ask a regimental accountant what he would make of the pay list of this headquarter section of 200 men. On the whole, he submitted that, however attractive it might sound to company officers to get rid of the employed men, it was very doubtful if it would work in practice. The company officers complained now that they never saw their employed men. Under this system they would complain that all their best men were taken from them and that they were left with nothing but inferior men and recruits. At present most of the employed men, at any rate, slept in the barrack-room and helped to keep things going there more than some people supposed, but the colour sergeant knew it.

THE FOUR-COMPANY ORGANIZATION : TRAINING.

With regard to the four-company organization he believed that he was truthfully expressing the opinions of a large and daily increasing number of regimental officers in saying that they were grateful to General Maxse for bringing forward this question of the present organization of the infantry. It was a subject that was being discussed at the present time by every battalion in the Service. They did not believe for an instant that the difficulties under which they laboured would be entirely removed by the adoption of a four-company organization. These difficulties were due to a large extent to their peculiar conditions, especially in having to feed an oversea army with drafts, and the fact that under a voluntary system recruits did not join at convenient times. Those drawbacks and their results would remain whatever the organization. But many of them were at least convinced that the small company system was directly responsible for much that was unreal in their training, that with small companies they could not carry out the principles laid down in the train-

ing manuals, and that with four companies they should attain a far higher standard of efficiency. That was good enough, he thought, whatever the feelings of the four junior captains might be who complained that they were deprived for a short time of their responsibilities.

THE FOUR-COMPANY ORGANIZATION : TACTICS.

So much for training. As regards fighting he thought it must be admitted that the present small company organization was designed to meet fire conditions which had entirely changed. He only wished to supplement General Maxse's remarks on this subject by saying that control of groups of fire units in battle—the sort of control which influences the result—could not be exercised laterally; it must come from the rear and work forward; the captains of small companies in the firing line were too near the front; those of companies in support were independent of companies in front. If they had larger companies their commanders would be with the reserves or supports in rear up to the last moment—in fact, in a position where they could receive the orders of the battalion commander, control and influence the result of the fight by the use they made of their reserves, and arrange for ammunition supply and for co-operation with neighbouring companies, and even with artillery. He thought they should base their organization on their tactics instead of trying to adapt their tactics to an organization which they happened to have inherited.

READINESS FOR WAR.

General Maxse had pointed out that it was not only the conditions of the battlefield that had changed but the conditions of the existence of the Army at home had changed. As he pointed out, the Army at home no longer existed merely as a machine for training drafts and manufacturing a reserve. These 72 Home battalions were the Army destined to fight in the West of Europe for the preservation of the Balance of Power, which was another term for the existence of this country as a nation, the existence of the Empire. Under these vital circumstances they would surely all agree with General Maxse—especially if, as he said, they were to fight two or three times their own numbers—that their organization, as far as means permitted, should enable them to start on equal terms with the enemy. As far as sergeants were concerned the Lecturer's proposals would remedy this drawback, and they were within our means, financially, for they involved a decrease of two sergeants to the peace establishment of each Home battalion and an increase of 32 corporals. He would go further than General Maxse. He was so convinced of the necessity of a larger company organization that, even at the price of reducing the proportion of officers and non-commissioned officers to other ranks, he would have the change. At the same time, if the General Staff considered that their fighting efficiency depended on a certain proportion of officers and non-commissioned officers, it was unlikely, in face of this opinion, that the proportion would be reduced in consequence of a change in organization.

Lieutenant-Colonel Alsager Pollock said he wished that reformers would concentrate on essential points instead of occupying themselves with matters of comparatively trifling importance. If they would, all of them—whether in the Army or retired from it, but especially those who are at the very top of it—unite in telling the British public what things were vital to the security of the Empire, there would be some chance of get-

ting them; but so long as they allowed red herrings to divert them from the true line they would effect nothing. With reference to the question of battalion organization, let them look back into history and reflect on how the "Centurion System" made both Rome and England, remembering that it had stood the tests of Zama, Albuera, Waterloo, Inkerman, and countless other battles; and before they rejected that system think well whether what they proposed to substitute was certainly better. A system that had stood such tests must surely have qualities not easily to be surpassed. Meanwhile let them leave aside for the time such minor matters of organization and devote their energies to issues really vital to the Empire. A crisis would be reached within the next five years, and if the result should be disastrous what would their descendants say when they read—perhaps in a foreign language—the history of this epoch? Would they blame most the Ministers who had neglected to make adequate preparations, or the soldiers who had neglected to insist upon the necessity for those preparations?

Colonel Sir T. S. Cave, K.C.B.: I will not for a moment attempt to enter into the arguments for the four company system beyond saying that what General Maxse has said very much appeals to me, but I should like to say that, should it be adopted by the Regular Army, I see no difficulty in its also being adopted by the Territorial infantry. On the contrary, I think much advantage might ensue from it.

Colonel Sir Lonsdale Hale: I rise to express my utter amazement at the line this discussion has taken, and also at the line that my friend the Lecturer has taken. I have here a letter, written to me in 1886, when this same question of large companies, either in the form of double companies or single companies, came up as a burning question, and much influence was used to change our organization from eight small companies to four large ones.

LORD WOLSELEY'S OPINION.

It so happened at that time that Lord Wolseley was Adjutant-General, and the Duke of Cambridge was Commander-in-Chief. I am sorry to say that the name of Lord Wolseley now means to many of you something that has passed and gone, but at that time he was only fifty-three years of age, and was in his mental and bodily prime. Those of us who knew him as I did said that Lord Wolseley possessed all those great qualities which go to make a great general. But unfortunately some little time before the South African War an illness, from which he still suffers, began, and so the great opportunity was denied him of leading an army in a great war. I was always on terms of intimacy with him, and he knew I was quite a safe man, and in 1886 he wrote to me with regard to small companies. He was very determined against any change to large companies. He says that by the eight small companies we shall beat any of these nations who are simply following the example of Prussia, which has gone in for large companies, and, as he points out, as we all know, it was no tactical reasons which led Prussia to have large companies, but, I believe, the dearth of officers. I will read you a few lines from the letter just to show you why I am astonished at what has happened, or, rather, what has not happened this afternoon:—

"I wish you to believe that I cling on to small companies as the result of my little personal experience of leading men under fire, of watching its effect upon them,

and of study of works written by others of great personal experience on that point, besides considerable thought upon *the* " (he doubly underlines the word "the") "great tactical question of the day: 'How to get alive at your enemy.' "

That was at the bottom of Lord Wolseley's thoughts; not what organization would give you a headquarter section, or a non-commissioned officer extra or less, but what would be best fitted to get alive at the enemy. And which gentleman who has spoken this afternoon, even the Lecturer himself, has told us anything whatever about the superiority of these big companies over the small companies in getting alive at the enemy? You have never referred to it, and it is a vital point. I cannot remember the exact words which my friend General Maxse uses in the paragraph where he says something to the effect that the Commander would combine the four companies. General Maxse assumes that the four big companies would work together.

BIG COMPANIES IN 1864, 1866, AND 1870.

I ask you to give me from the experiences of war—that is, all we can go back to—instances to show that four big companies will work together as satisfactorily as a battalion as would eight small ones. You can only go back to 1866 and 1870, and I know a little bit about those wars. 1866 was the first time practically that the large company business of Prussia was brought into the field. There was just a little war in 1864, but they tried their big company system on the field of battle in 1866. If you will take the Battle of Kissingen, on which I lectured once, you will find four big companies constituting a battalion going together, and working together as a battalion quite as well as eight small companies would have done. If you take what happened at the wood of Maslowed, you will find some twelve company columns coming in at the north, and going out at the south side, almost in the order in which they entered that wood, and not a single company broken up. You would have said from that war that these large companies were a splendid thing. But the company commanders of 240 men each had not felt their feet then, but by 1870, they felt their feet, and I will refer you, first of all, to the Bois de Givodeau at Beaumont.

EXAMPLES FROM BEAUMONT AND WÖRTH, 1870.

The 26th Regiment in 1866, before the company commanders had felt their feet, walked through that difficult wood of Maslowed, and came out to the other side practically intact. At the Battle of Beaumont they entered the southern edge of the Bois de Givodeau, and the man who commanded them had been a major in the battalion in the former case. But look how the regiment came out now. It was absolutely broken up, simply going through a wood. All idea of keeping together was flung to the winds. Not only were the battalions knocked to pieces, but you will find one first battalion company at one place, another battalion company away at another place, and companies themselves broken up in separate and separated *Zugs*.

Now, I will point out the danger of this big company system by going to the Battle of Wörth. That was the first trial of the big company system in battle, I might almost say, and the very best account of that is given by the German writer Kunz, and he points out how things went to

pieces. It was the breaking up of control. It extended even to the generals commanding corps, and went right down to the lower divisions, and at last got to battalions, and companies. The moment the battalion went into action, and under fire, the tendency of each of those four company commanders was to say, "Now I have got these 240 men, I can do something on my own account—I do not mind the battalion—I do not want assistance from the other companies—I am 240 strong, and there is something to be done, and I will leave my battalion in order to do it." The temptation was too strong. Each wanted to win, and away the company went. But he reckoned without his host, for the company was formed of three *Zugs*, each 80 strong, and the subalterns, in command of those *Zugs* 80 strong, the moment the company went forward, thought there was a change of doing something, and off went the *zug*. I do not say that this always happened, but that was the tendency. It was owing to the large size of the units of which the company was composed that in that battle a company would break itself up, cease to be a company, and cease to be part of the battalion.

I have never seen a shot fired in war, but yet I think I know a great deal more of what happens in war than many of you do. I merely say that the result of that experience is that if you do not wish to retain battalion command, by all means turn it into four companies of 250 men each. They will go away to have little battles on their own account. But if you wish to keep the battalion control—and I should think, starting at the long distance you do from the enemy, you would like to keep control as long as you can—have small companies, 100 men, which will soon whittle down to even less. Accustom them to think of each other. They will know they cannot do anything very big by themselves, they will think of the people on each side, and I venture to say you will find corroborated the opinion of my old friend Lord Wolseley that if you want to win battles, you should have your battalions in organization not of four, but of at least eight companies.

The Lecturer, in replying on the discussion, said: For fear my friend Sir Lonsdale Hale might go away before the proceedings terminate, I should like to observe that I pretend to no such detailed knowledge as he possesses, but think it must have occurred to many of us that this four-company system which (he says) met with failure in 1870, is still maintained by that very scientific people, the Germans. Therefore, the German General Staff does not agree with Sir Lonsdale Hale.

THE FINANCIAL ASPECT OF THE QUESTION.

We are all glad to have seen Mr. Charles Harris here, and I think it was most satisfactory that he, being an authority on finance, was able to tell us that we can carry out the principles of this scheme, if it is approved of by the military authorities, for about £60,000 a year. That is satisfactory because some thought it would cost more.

THE "DISPOSSESSED CAPTAINS."

Two or three officers have made a criticism which was anticipated. It expressed the view that there will be four "dispossessed" captains in the reorganized battalion. I should like to answer it in this way—I agree that during company training the four junior captains will be working under the four majors, and I think it is essential they should; they will, therefore, not have a show of their own during this one month

in the year, but they will gain a great deal of experience of the company's work, and greatly assist its training. Now we come to the other eleven months of the year. If you look at any brigade at Aldershot, and I presume in other places also, you will see that about half the company commanders are taken away for various good reasons, such as attachment to artillery, umpires, and so on, with the result that many of them disappear for several months of the progressive training period. Taking any one company, it is pretty certain that either the major or the captain will be taken away for some other duty. Now, I put it to Captain Kentish most particularly, and ask him kindly to consider the point that a captain, although he has not had the command of the company during the one month, will have a thorough grasp of its units, and (when his major goes), will have a fine command during the summer season, including brigade and higher training.

Captain R. J. Kentish said that he could not agree with the Lecturer.

The Lecturer: Then I fear I cannot persuade you; but I put it to the meeting as being a consideration of importance in connection with the argument of the "dispossessed" captain, that we must think first of what will be best for the company.

INCREASED INTEREST IN TRAINING IN BIG COMPANIES.

General Lawson made a point I should like to emphasize tremendously. There is not the slightest doubt that the work in the big companies will become very much more interesting. I do not wish to make a sweeping general statement, but cannot help feeling that we are getting a little bit into a groove with regard to our training, and that is an opinion I have heard expressed by those who know much more about it than I do. I think that, if we had the four companies, the work would be more interesting to the officers, and especially to the subalterns. Just think of the pride of a subaltern going off on his own to train a section of 24 men. With regard to General Campbell, I know his views, and have nothing to say, except to ask one question of the meeting:—

THE COMMAND OF A BIG COMPANY IN THE FIELD.

It was suggested by General Campbell that a big company cannot be commanded by one man—a company of 200 men. I ask anyone here: Can a company of 100 men in the deep and wide formation of a modern battlefield be commanded by one man? I say he cannot personally command 100 men now. He may command four section commanders, but he cannot command 100 men. As he cannot command 100 men, obviously he cannot command 200. But by means of an organized chain of command he can produce results with 100 men now, and he will produce results with 200 men in the future. Therefore, I do not think that argument is a strong one, because the width and depth of formations at the present time do not enable any single man to command 100 individuals.

A CORPORAL'S COMMAND IN A BIG COMPANY.

I quite agree with Captain Kentish that my scheme will not produce more men; it does not pretend to produce more than our present 680 privates, but it arranges for placing them in units suitable to their work. Captain Kentish made a good point about the recruits when he reduced the squad, which is the fire unit, to eight men, less the recruits. I take his figure, which I think is a very fair one, namely, 15 recruits per double company on the average.

Captain R. J. Kentish said that he was referring to a single company.

The Lecturer: There are not 120 recruits on the average all the year round in a battalion. I have looked into it, and think 60 is a fair number taking it all the year round. I am very glad Captain Kentish brought out that point, because I want to emphasize it. We have to train for war. One of my points is that the new corporal is going to command a squad of 12 men in war, even if he only commands six men in peace. For, after deducting the recruits, the corporal will be commanding a squad of six real men, not paper men, and that corporal can learn to command men if he has six under him all the year. At present he has none, except during company training. Therefore, when his six are augmented to 12 men in war, the future corporal will be a trained leader, and that is the essence of the proposed plan.

THE HEAD QUARTER SECTION.

I am sorry to differ from Captain Wake with regard to the head-quarter section. He seemed to imply that this was a body of men who would be marching about like a company, but it is nothing of the sort. It is only an administrative unit; it never acts as a body; it has a colour sergeant and a quartermaster sergeant to look after its accounts, discipline, etc., etc. It consists of men who are extremely useful, but are not in any way a unit in the fighting line. I am thinking of the point he made that the senior major ought to be doing something more useful than looking after these men. He will, of course, only be called upon to settle questions when they arise in peace; he will not be marching these units about. On service he will be in action. Let us look through the Appendix and see who are in the Headquarter Section? The machine gun section—are you going to dot them about amongst the companies? Certainly not; what you want is to have machine guns handy. Then the officers' mess and the extra police—you must have them out of the companies in war. You want to keep water pure or do something or other, and this will not require the major's help. Then there are the pioneers. Whenever the C.O. wants a job done, he sends for the pioneer sergeant, and says, "Do me that job." If the pioneers are together in a headquarter section, the pioneer sergeant goes off and says, "Smith, go and do that carpenter's job." But, if you put the carpenter with one company, the plumber with another, and so on, these men have to be collected from the companies for each job of work. With regard to signallers, one or two should, perhaps, be with each company. But if you want signalling done on an ordinary field day, I maintain that the only way to get it done with any rapidity is to order the signalling officer to do it, and then the signalling officer should not be compelled to go round and collect the signallers from the companies. He should have them all handy and detail them rapidly, or the occasion for signalling will have gone before he is ready. The next people referred to are the band, and I do not see the use of putting them into companies?

Captain H. Wake, D.S.O., said that he had criticised the arrangements in peace time, not in time of war.

The Lecturer: I want to organize in peace as in war. If a thing is good in war, it is good in peace. If it is bad in war, do not let us have it in peace. Everything must be put to the test of war. It seems to me more convenient, from my experience of commanding a battalion, to have

the specialists centralized so that you can use them when you want them and not have to run round the companies to collect them.

THE CHAIN OF COMMAND IN A BIG COMPANY.

There is one little point which has not been mentioned by anybody. In the four-company battalion you get rid of a fifth wheel of the coach in each company. For instance, an order goes to the men from the captain. In the eight-company system it goes first to the subaltern, from the subaltern to the section commander, and from the section commander to the squad commander—namely, through four unit commanders. In the four-company battalion it will go from the company commander to the section commander, and thence to the squad commander, that is through only three unit commanders. Thus we get a saving of one, because the bigger company is more scientifically organized. Yet, in each case, the squad has the same number of rifles.

The Chairman: I am delighted to see so large an attendance and to have heard so full a discussion of this most important subject. The case for both sides has been well represented and argued, and little remains for me to say.

Sound organization being at the root of all military efficiency, the importance of the subject cannot be over-stated.

I must, in the first place, heartily congratulate General Maxse on the fair and temperate tone, the lucidity of argument, and the clear and concise methods he has adopted in placing the issue before us.

There is an article in the October number of the *Army Review* on this subject of Infantry Organization. The author points out that the proposal to substitute four companies for eight is one which cannot be lightly adopted. It would entail the re-casting of all our mobilization arrangements, the amendment of our Regulations and Training Manuals, and many other important changes, which would take time and careful consideration to carry out. He adds, truly, that war might occur while the process was going on, and dwells rightly on the disadvantage of having to use the machine before it was working smoothly. We must all thoroughly agree with him in thinking that the evidence in support of the change must be conclusive before the risks which it entails are incurred. It is in that spirit we must approach the consideration of the subject.

THE SQUADRON SYSTEM IN THE CAVALRY.

Now I can call to mind very clearly a time which perhaps some few of you can also remember, namely, the introduction of the squadron system into the cavalry. I was myself an ardent advocate of that system, and the arguments used on both sides became very familiar to me. The principal point relied upon by our opponents was then, as now, the fear of a reduction in the number of officers and non-commissioned officers. As to this, I would only say that, although nearly twenty years have elapsed since the introduction of the squadron system, there has never been any hint of an intention or desire to reduce the number of officers or non-commissioned officers from any quarter. I would add that, in the opinion of those most competent to judge—an opinion which I think may now be said to be universal—the change has had a very marked effect, and has led to much increased efficiency.

I am not using this as any unanswerable argument in the favour of the Lecturer's proposals. I am quite aware that, so far as tactics

are concerned, an organization which suits the cavalry may not suit the infantry. The success which has attended the change is, however, a fact to which we would do well to give due weight, especially as the squadron system is found to work just as well when, as is so frequently the case in these days, the cavalry is called upon to act dismounted.

I see before me an assembly including some most eminent and capable infantry commanders, and as a cavalry soldier, I feel much diffidence in offering any opinion on a subject on which they are, perhaps, much more capable of forming a correct opinion than I am. Judging, however, from that standpoint, and in view of my own personal experience both at Aldershot and as Inspector-General of the Forces, the arguments in favour of a four company battalion seem to me very difficult to answer.

I am much perplexed by this difficulty when, as Chairman, I am called upon to sum up the case.

While such important advantages as what I would term economy of brain power, chain of responsibility, tactical requirements, and increased peace training facilities, are all ensured by the four company organization, we have it urged on the other side that the captain loses his independent command, and the subaltern many opportunities of learning to bear responsibility and acquiring initiative. The writer of the article in the *Army Review*, to which I have referred, answers this latter objection with a trenchant remark to the effect that officers exist for the regiment, not the regiment for the officers. But, apart from that, it seems to me to be open to question whether both captain and subaltern will not find themselves in a position much more favourable to their military education and development under the four company system than under the eight.

The formation of double companies for peace training only is, at best, but a tentative and evasive arrangement. For there can be no doubt as to the necessity of training units in peace as they are intended to go to war.

COMMENTS ON OBSERVATIONS.

If we are to judge by all we have heard to-day there can hardly be much doubt in the mind of any unprejudiced person as to which way the balance of military opinion inclines on this subject, and the whole matter seems to me to resolve itself into a question as to whether, or not, the case for a four company battalion has been so urgently brought home to us as to warrant our incurring the undoubted risks and disadvantages which must await the adoption of any far-reaching and drastic reform.

We all most heartily concur with General Maxse in his mention of the splendid work done by the General Staff during the last few years, and in the grateful recognition of that work by brigade and regimental commanders, and I feel sure we may confidently leave the problem we have been discussing in the same able hands, in the firm assurance that the best possible solution will be arrived at.

I know I am only expressing the opinion of everyone in this room when I tender our heartfelt and grateful thanks to General Maxse for his most interesting and valuable lecture.

THE REVOLUTION IN CHINA.

(Up to end of December, 1911.)

AT the close of the year the revolution in China still continued without, as yet, showing any immediate prospect of peace. Towards the end of November news arrived of desperate fighting having taken place in the neighbourhood of Nanking, and also round the three cities of Hankow, Hanyang, and Wu-chang. On the 28th November, General Fêng Kuo-chang, commanding the 1st Imperial Army, reported that the troops under his command had on the previous afternoon occupied the whole of Hanyang, and that they were about to cross the Yang-tzu and attack Wu-chang. The Imperialists appear to have crossed the Han River on the 25th November, and on the 26th began a fierce attack on the outer forts of Hanyang. The rebels offered a brave resistance, but their shooting was erratic, and their discipline inferior to that of the northern troops. By the evening of the 26th the Imperialists held the two outer forts, and on the following day resumed the attack. The rebels appeared somewhat disorganized, and after abandoning Tortoise Hill, a mountain to the S.W. of the Hanyang Arsenal, were finally driven out of the whole of Hanyang, and fled in confusion across the river to Wu-chang. Their losses were said to have been enormous, while the Imperialists are also reported to have suffered heavily.

In view of the serious state of affairs, it was now decided to augment the strength of the British squadron in Far Eastern waters. Three third-class cruisers were detached from the Australian station, one of which, the "Pegasus," was due to arrive at Hong Kong on the 9th December. A detachment consisting of 162 men and two guns was sent from Hong Kong to Hankow to relieve the Navy from duty on shore.

The Armistice.

As a result of the insurgent reverse at Hanyang, General Li Yuan-hung, the insurgent leader, asked for an armistice of three days. This was granted, with effect from the 1st December, on the following conditions:—

- (1) Military preparations on both sides to cease.
- (2) No reinforcements to be brought up by either side; no encroachment, and no spying to take place.
- (3) No warship to anchor in the vicinity of Hankow or Wu-chang.
- (4) The agreement to be signed in the presence of the British Consul.

It was mainly due to the friendly offices of the British Minister in Peking that this armistice was arranged. This preliminary armistice, however, only covered the area in the immediate vicinity of Hankow, and hostilities still continued in other parts of the Empire.

Nanking fell on the 2nd December. On the 1st, the Purple Mountain, a strongly fortified position on the east of the city,

was captured by the insurgents. This success placed the city at their mercy. General Chang, the Imperialist leader in Nanking, succeeded with the major portion of his command in making good his retreat across the river, and retired northwards up the Pu-k'ou-Tientsin railway. During his retirement he inflicted a severe defeat on an insurgent force which endeavoured to bar his progress at a point north of Pu-k'ou.

On the 4th December Yuan Shih-k'ai gave his consent to the extension of the armistice for a further period of 15 days. This extension was made to cover the whole area of military operations, and the dispatch of troops towards Nanking from the north, by the Tientsin-Pu-k'ou railway was countermanded. This railway has been reported by the Peking correspondent of the *London Times* as open throughout its length, with the exception of the bridge over the Yellow River. Should the Peking correspondent of the *Times* be correctly informed, the Tientsin-Pu-k'ou line will have an important influence on future military operations, since it will bring Tientsin and Peking in direct railway communication with the lower Yang-tzu, which district is the headquarters of the revolutionary movement.

It had long been felt in Government circles that the main obstacle to a peaceful settlement was the reluctance of the Prince Regent to abdicate. During the latter days of November great pressure had been brought to bear on him, the result of which was made known on the 6th December, when in an Edict signed by the Empress-Dowager, the Regent was removed from office and his position as Guardian of the Emperor assigned to Hsu Shih-Ch'ang, a Chinese, and Shih-Hsu, a Manchu.

The National Conference.

By the 4th December arrangements had been made for a National Conference to take place at Hankow. T'ang Shao-yi, Minister of Communications, was appointed Chief Government delegate. On the 12th December, however, the insurgent leaders having refused to delegate competent powers to Li Yuan-Hung at Hankow, Tang Shao-yi was instructed to proceed to Shanghai, there to meet the representatives of the insurgent party in conference. From the day that the idea of a conference was first suggested, the insurgent leaders have insisted that it should take place at Shanghai, and this concession on the part of the Imperial Government was regarded as a great moral victory. They considered with some reason that if it were conducted at Hankow, their representatives might suffer from the moral pressure exercised by the immediate proximity of the First Imperial Army, which had been victorious at Han-yang, whereas in the Lower Yang-tzu nothing but success had attended the insurgent cause.

Further extensions of the armistice were made on the 9th and 20th December. According to the latest information, at the time of writing, it was to expire on the 31st December.

On the 18th December the Peace Conference opened at Shanghai. Wu Ting-fang, Foreign Minister for the Provisional Republican Government, acts as the insurgent representative; Tang Shao-yi, Minister of Communications, as the Government representative. On the insurgent side a determination was expressed to be satisfied with nothing less than a republic. Ample provision for the Imperial family would be made, but if the Government were determined to fight for a monarchy, no compromise would be possible. If, however, a republic were granted, a lasting peace would result, and Manchus and Chinese would live together in harmony. Yuan Shih-k'ai, according to the Peking correspondent of the *Novoe Vremya*, had framed proposals under 22 heads. These were to form a basis of negotiations with the revolutionaries. Practically all their demands were conceded, with the one exception that the Manchu dynasty must remain, since he considered that the maintenance of the Throne was essential to the stability and cohesion of China.

On the 20th December, unofficial representations were made by the Consuls-General of Great Britain, France, Germany, Japan, Russia, and the United States to Tang Shao-yi and Wu Ting-fang urging a speedy understanding in the interests both of China herself and of foreigners. Wu Ting-fang did not receive them in a conciliatory spirit. The Chinese, he said, were fighting for liberty, freedom, and good government. If a peace were hastily patched up, it might lead to still more serious consequences. Another revolution might break out, which would leave the last state of China worse than the first.

The Conference which now seemed to have arrived at a deadlock, was on the 20th postponed *sine die*, and a resumption of hostilities on the termination of the armistice on the 31st December seemed probable.

On December 28th, an Imperial Edict was issued, admitting that the assent of the Throne to the 19 articles of the Constitution had failed to re-establish confidence, and announcing that the question of the form of government would be submitted for decision to a National Convention representative of the whole nation; the *Times* Peking correspondent understands that the Convention was intended to consist of 3 delegates from each of the 22 Provinces, and was to assemble within 3 months. The revolutionary leaders were, however, unwilling to consent to so long a delay, and demanded the nomination of those delegates who were already sitting in the Provisional Convention of Nanking as representatives of 14 of the Provinces. On the 29th December it was announced that the Provisional Convention of Nanking had elected Dr. Sun Yat Sen, the well-known leader of the "Young China" party, as President of the Republic of China.

Fighting in other Parts of the Country.

While negotiations have been in progress in Shanghai and Hankow, the main centres of the rebellion, there has been no

cessation of hostilities in other parts of the country. A force of rebels had occupied Niang-tzu-kuan, a strong position on the Chih-li-Shan-hsi frontier astride the railway to T'ai-yuan Fu, the capital of Shan-hsi. From this point they were able to threaten the communications of the First Imperial Army with Peking. On the 20th December an Imperial force succeeded in turning the position, the insurgents retiring along the railway to Tai-yuan Fu, whence they disappeared southward. There was very little fighting, the Imperial casualties not exceeding 50, and those of the rebels 100. The forces engaged numbered 7,000, and 3,000 respectively. In accordance with the terms of the armistice the Imperial troops did not advance from Niang-tzu-kuan. The result of this engagement has been that the whole branch railway and the city of T'ai-yuan Fu have now reverted to Imperial control.

In other remote parts of the country, the *Times* correspondent reports that anarchy is rife. Robbers appear to hold the greater part of Ssu-Ch'uan, Yun-nan, and Kuei-chou.

The reports received with regard to the situation in Manchuria are most confused. It appears that the rebels are in small bands and are poorly armed. The successes they have hitherto effected have been due to surprises, and the towns they have captured are now being retaken by Imperialists. The Imperialist campaign against the rebels is merciless. Troops are being dispatched to the various centres to root out the rebels, who, when captured, are instantly beheaded.

It is reported in the Press that the Chinese troops in Lhasa revolted on the 19th November, in sympathy with the revolution in China, and that after looting the armoury and mint, and forcing the Amban to abdicate, they marched for China. Another outbreak is said to have occurred at Chumbi.

NAVAL AND MILITARY CALENDAR.

DECEMBER, 1911.

2nd (Sat.)	Landing of the King-Emperor and Queen-Empress at Bombay.
4th (Mon.)	Launch of 3rd class cruiser "Amphion" at Pembroke.
" (Tues.)	Capture of Ain Zara by the Italians in Tripoli.
5th (Tues.)	H.M.S. "Hampshire" commissioned at Portsmouth.
7th (Thur.)	H.M.S. "Doris" paid off at Devonport.
9th (Sat.)	H.M.S. "Hampshire" left Portsmouth for Mediterranean.
12th (Tues.)	Coronation Durbar at Delhi; announcement by the King-Emperor of the transfer of the capital to Delhi.
15th (Fri.)	H.M.S. "Brilliant" paid off at Chatham.
16th (Sat.)	Departure of their Majesties from Delhi at the conclusion of the Durbar ceremonies.
19th (Tues.)	The President of the Admiralty Court delivered judgment in the collision case between H.M.S. "Hawke" and White Star Liner "Olympic," which occurred in the Solent on 20th September last, declaring "Olympic" alone to blame.
20th (Wed.)	H.M.S. "Venus" commissioned at Portsmouth.
22nd (Fri.)	Renewed attacks on the Spanish positions in Melilla.

NAVAL NOTES.

THE KING.

The following telegram was received by M. Fallières, President of the French Republic, on December 17th, from his Majesty King George, in connection with the service rendered by the French cruiser "Friant," and the drowning of three of her men, on the occasion of the wreck of the P. & O. ss. "Delhi."—

"I hasten to express to you and to the French Navy my warmest thanks for the gallant services rendered by the seamen of the cruiser "Friant" on the occasion of the wreck of the "Delhi," on board of which were my dear sister and her family. I am deeply grieved to learn that brave sailors have perished in their noble efforts to save life. I beg you to convey to their families the assurance of my sincere sympathy."

GEORGE R.I.

M. Fallières replied:—

"I greatly appreciate the feeling which your Majesty is pleased to express to me on the occasion of the wreck of the "Delhi." Three seamen have met their death while performing their duty, but the French Navy is proud to have helped to save lives, some of which were so dear to your Majesty. I shall not fail to inform the bereaved families of the sympathy which your Majesty manifests for them, and this will be a consolation that will be greatly esteemed by them in their affliction."

His Majesty also sent the following message to the Atlantic Fleet:—

"My sincere thanks for all the Fleet has done regarding the wreck of the "Delhi." I am much relieved that my sister and her family have been safely landed."

Her Majesty Queen Alexandra also sent the following telegram to President Fallières:—

"May I ask you to transmit to the officers and seamen of the warships "Friant" and "Du Chayla" my most grateful thanks for their noble and effective services on the occasion of the wreck of the "Delhi." My heart is filled with gratitude towards those who saved my dear daughter and her family from imminent peril. I most profoundly lament the death of the gallant sailors who sacrificed their lives in their effort to rescue the English passengers of the "Delhi," and I ask you to be so kind as to convey to their families my most sincere sympathy in their bereavement."

M. Fallières replied:—

"It was with keen emotion that I heard of the danger to which her Royal Highness Princess Louise and her family had been exposed in the wreck of the "Delhi," and I am particularly glad that French seamen were able to assist with success in the work of rescue. I am profoundly touched by the sentiments which your Majesty is pleased to express with regard to those who met

Home—continued.

their death in fulfilling a noble duty. I shall not fail to convey your Majesty's message to their sorrowing families, and I am asking the Minister of Marine to transmit your Majesty's thanks to the officers and sailors."

The following telegram was also sent by Queen Alexandra to the Vice-Admiral commanding the Atlantic Fleet:—

"Please accept and convey to the officers and men of the British battleships under your command my most heart-felt thanks for their noble and effective services upon the occasion of the wreck of the 'Delhi.' My heart is very full of gratitude to the gallant sailors who took so great a part in rescuing my dear daughter and her family in their great peril."

The P. and O. liner "Delhi," in which the Princess Royal, the Duke of Fife, and their two daughters were taking passage to Egypt, went on shore about 1 a.m. on the morning of the 14th December, some two miles from Cape Spartel. The night was thick and stormy, the wind blowing from the west with heavy rain squalls. The French cruiser "Friant" from Tangier was the first vessel to arrive at the scene of the wreck, being quickly followed by the battleship "London," flagship of Rear-Admiral Cradock, the armoured cruiser "Duke of Edinburgh," the "Weymouth," a torpedo-boat and a dockyard tug. The "Friant's" steam launch succeeded in towing one boat laden with passengers to the "Duke of Edinburgh," but owing to the nasty sea running, the work of transshipment was very difficult, and it was decided that it would be less dangerous to land the remainder. With some trouble Rear-Admiral Cradock succeeded in getting the Royal party into one of the "London's" cutters, and the boat was then headed for the shore; but in spite of all efforts to keep her clear of water she was swamped in the surf. Fortunately the water was, comparatively speaking, shallow, and the Princesses, although with some difficulty, and much exhausted, were brought safely to land. In the meantime, the "Friant's" steam launch had come to grief; she was proceeding to the help of another of the boats, when, getting into the trough of the sea, the coxswain was washed overboard and drowned, her fires extinguished, and the boat driven on shore. Two of the English boats tried to assist, but the surf rendered their efforts abortive. The crew succeeded in relighting the fires, and an attempt was made to steam out, but a heavy sea capsized her, and although the officers in charge and four men succeeded in reaching the shore, two others were drowned. The body of only one of the men was recovered, and after lying during the night in the French Hospital at Tangier was taken on board a French transport the next day for passage to France. Before the funeral procession left the hospital, the British Minister, speaking in French, made a touching speech, and laid a magnificent wreath of white flowers on the coffin on behalf of the Princess Royal. The procession was headed by the band of the "London," and was attended by the British Minister, the French Chargé de Affaires, and the entire staffs of the two Legations, the captains of the "London" and "Weymouth," with 20 officers and 200 bluejackets from the English ships, and a large contingent of French Naval officers and seamen. In the House of Commons the Prime Minister, in reply to a question by Lord Charles Beresford, said he was sure the House would be glad to acknowledge the extreme gallantry shown by the French seamen, and of expressing its sincere regret for the loss of life that had occurred.

Home—continued.

The King has given 3,000 francs (£120), and Queen Alexandra £100 towards the relief of the families of the French seamen who lost their lives.

Naval War Staff.

The Admiralty have determined upon the immediate formation of a Naval War Staff, and a Memorandum by the First Lord has been published, in which he points out the broad differences of character and circumstances which distinguish Naval from Military problems, and outlines the character of an effective Naval War Staff, and states the position it will hold in relation to the Board of Admiralty and the other Departments concerned with Imperial Defence. The Memorandum in question is a lengthy one and is issued too late for publication in the current number of the JOURNAL, but the principal points dealt with will be given in the February number.

In a second document the First Lord announces the appointment of an Additional Civil Lord, who will be a permanent and non-political official, to conduct the business and commercial transactions of the Board.

HOME.

The following are the principal appointments which have been made:—

Captains—C. M. de Bartolomé to be Naval Assistant to First Sea Lord; E. L. Booty, M.V.O., to "Dryad," and command of Navigation School; R. E. R. Benson to "Fisgard" as Inspecting Captain of Mechanical Training Establishments; J. C. Ley to be Assistant-Director of Naval Ordnance; C. D. Carpendale to "Good Hope" and as Flag-Captain to Rear-Admiral Sturdee; A. F. Everett to "Neptune" and as Flag-Captain to Admiral Sir G. Callaghan; R. A. Hopwood to "Hercules" and as Flag-Captain to Vice-Admiral Sir John Jellicoe; E. H. F. Heaton-Ellis, M.V.O., to "Prince of Wales" and as Flag-Captain to Vice-Admiral Cecil Burney; Hon. H. E. A'Court to "St. Vincent" and as Flag-Captain to Rear-Admiral Madden; H. F. Oliver, M.V.O., to "Thunderer"; R. S. Phipps Hornby, C.M.G., to "Swiftsure"; C. E. Hunter to "Hampshire"; R. Webb to "Sappho"; H. M. Doughty to "Melpomene"; M. H. Hodges to "Cornwall"; F. W. Caulfield to "Hyacinth"; C. L. Napier to "Monarch"; C. B. Miller to "Liverpool"; F. D. Gilpin-Brown to "Challenger." Commanders—H. Luxmoor to "Prometheus"; G. T. Pike to "Adventure"; G. Trewby to "Active"; G. J. Todd to "Sphinx."

The flag of Admiral Sir G. Callaghan, K.C.B., K.C.V.O., the new Commander-in-Chief of the Home Fleet, was transferred to the "Neptune" from the "Hercules" on the 14th ult., at Portsmouth. The flag of Vice-Admiral Sir John Jellicoe, K.C.B., K.C.V.O., appointed to command the Second Division of the Home Fleet, was transferred from the "Prince of Wales" to the "Hercules" at Portsmouth on the 10th ult., while on the same day the flag of Acting Vice-Admiral Cecil Burney, appointed to succeed Sir John Jellicoe in command of the Atlantic Fleet, was hoisted in "Good Hope," and later transferred to "Prince of Wales," and the flag of Rear-Admiral F. C. D. Sturdee, C.M.G., appointed to command of Fifth Cruiser Squadron, was hoisted in "Invincible," and transferred to "Good Hope," on the transfer of Vice-Admiral Burney's flag to "Prince of Wales."

British Empire.—continued

Captain F. F. Haworth-Booth has been selected for service under the Australian Government to act as Naval Adviser to the High Commission of the Commonwealth in London.

The 2nd class cruiser "Doris" paid off on the 6th ult. at Devonport on being relieved in the Atlantic Fleet by the new cruiser "Weymouth," and recommissioned the following day for service with the Devonport Sub-Division of the Home Fleet. The 2nd class cruiser "Brilliant" paid off at Chatham on the 15th ult. on completion of two years' service in the West Indies and on Newfoundland Fishery duties.

Creation of a 7th Destroyer Flotilla.

The 2nd class cruiser "Venus" was commissioned at Portsmouth on the 20th ult. for service as Dépôt Ship for the 7th Destroyer Flotilla, which is being organized.

The vessels which are to form the new flotilla are the twenty destroyers of the "Acheron" type, which will join as they are completed. They are the "Acheron," "Ariel," "Archer," "Attack," "Badger," "Beaver," "Defender," "Druid," "Ferret," "Forester," "Goshawk," "Hind," "Hornet," "Hydra," "Jackal," "Lapwing," "Lizard," "Phoenix," "Sandfly," "Tigress." These destroyers were provided for in the 1910-11 programme. Their dimensions are as follows: Length, 240 feet; beam, 25 feet 9 inches, with a displacement of 780 tons. The turbine engines are to develop 13,500 I.S.P., giving a speed of 27 knots, while the armament consists of two 4-inch Q.F., and two 12-pounder Q.F. guns, with two torpedo tubes. The new flotilla is specially intended for service in the North Sea.

The New Floating Dock.

The new floating dock, which has been built for the Admiralty by Messrs. Swan, Hunter and Company at Wallsend-on-Tyne, was successfully launched on the 4th inst.; she was to have been launched on the 7th ult., but when the time came, she refused to move, and a further attempt to launch her on the following day also failed. It was thought that the attempt on the previous day was unsuccessful owing to the tallow on the slips having become frozen, and throughout the next night large fires were kept lighted underneath the huge construction; but in spite of the use of powerful hydraulic rams, the attempt had again to be abandoned. Since then the ways have been considerably altered, and the launching was accomplished without any mishap or difficulty. The dock has a lifting capacity of 32,000 tons, and is one of the three, for which provision has been made in the Estimates. It is believed the new dock will be moored in the Medway.

FRANCE.

The following are the principal promotions and appointments which have been made:—

Rear-Admirals—J. Gaschard to Vice-Admiral; A. J. Bouxin to command of the Naval Training Establishments in the Northern Ports; B. S. Sourrieu to command of Naval Training Establishments in the Mediterranean. Capitaines de Vaisseau—J. F. Clément, A. L. Huguet, A. Rouyer, A. A. Tracou, P. J. Darrieus, to be Rear-Admirals; J. E. Paillet to "Jauréguiberry"; E. A. Conrad-Bruart to "Desaix." Capitaines de Frégate—P. A. Jéhénne to "Branlebas" and command of Destroyer

France—continued.

Flotilla of 3rd Squadron; J. M. De Marquessac to "Pistolet" and command of Torpedo-boats, Submarines and fixed defences at Saigon; H. R. Sagliesi-Conti to "Descartes."

—*Journal Officiel de la République Française.*

Admissions to Naval School in 1912.

The Minister of Marine has fixed at sixty the number of cadets to be admitted to the Naval School as the result of the examination for 1912.

The New Battleship.

The Minister of Marine has intimated to the Port Authorities at Brest that one of the new battleships provided for in this year's estimates is to be built at that yard, and they are authorised to commence the preparation of material for the new ship, which, like the "Jean Bart" and "Courbet," is to be completed within three years. The second of the new ships is to be laid down at Lorient, while a third, to take the place of the ill-fated "Liberté," is to be built at the Chantiers de la Gironde, Bordeaux, the firm which constructed the "Vergniaud." These ships are to be identical with the "Jean Bart" and "Courbet," so as to form an homogeneous squadron. The work on the "Jean Bart" is being pushed forward so rapidly that the ship will probably be completed ready for sea well ahead of the date originally fixed. On the 30th November, at the La Seyne Yard, Toulon, the first keel plate of the new 23,000-ton battleship "Paris" was placed in position, and it is hoped that she will be launched next October. The slip on which she is being built has been specially constructed for the purpose, the work of construction presenting considerable difficulty, as the La Seyne Yard is built entirely on land recovered from the sea. The new slip will accommodate ships of over 600 feet in length, and weighing 10,000 tons at the time of launching.

The new first-class battleship "Vergniaud" was commissioned on the 18th ult.; she is the last of the six ships of the "Danton" class to be completed, and when she joins Vice-Admiral Boué de Lapeyrères's flag, the First Squadron of the "Battle Fleet" will have been brought up to its full strength.

The "La France," the sister ship to the "Paris," has also been commenced; she is being constructed at the Chantiers de la Loire at St. Nazaire.

The Organization of the French Naval Defence.

M. de Lanessan, the former Minister of Marine, has given notice of his intention to move a resolution in the Chamber on the organization of the naval defences of France as follows:—

The Chamber calls the attention of the Ministers of Marine and War to the necessity:—

1. To consider the distribution of the fleet, with a view to its being ready for all strategical requirements at once on the declaration of war.
2. To organize each of the military ports and arsenals, with a view to their being in a position to carry out the duties for which each is most particularly suited, both in peace and war, and to supply our arsenals with the organization and machinery most suitable for producing the maximum amount of work at a minimum cost, assuring at the same time to the workmen such advantageous terms as will make it to their interest to retain their positions.

France—continued.

3. To complete the defences of every point on the littoral, both by sea and on land, which in time of war might be exposed to bombardment or landing.
4. To increase the powers of the heavy guns of our battleships, and if possible, to make them superior to the guns mounted in foreign navies.
5. To concentrate the financial efforts of the Navy on new construction and the accumulation of a sufficient supply of warlike stores.

The *Temps* comments on the above as follows:—

"The resolution which M. de Lanessan has submitted to the Chambers on the organization of the naval defences of France, and their distribution, so that they may act immediately on the outbreak of war, is a matter which he has very much at heart, and which drew from him a year ago a series of letters of great interest.

"M. de Lanessan's opinion is that without withdrawing altogether from the Mediterranean, it is nevertheless desirable to concentrate a part of our battleships and armoured cruisers in the North, with the port of Brest as a base. The *Temps* has already contested this view; we have shown that concentration in the Mediterranean conforms more to the interest of the general defence of the country and to the requirements of our entente with England; quite recently an English journal *apropos* of the concentration in the Mediterranean of the squadrons of battleships of the "Patrie" and "Danton" classes, stated that M. Delcassé, the present Minister of Marine, is probably in more close relations with the British authorities than any other European Minister has been for generations, which appears a reason for treating the question as we have done.

"M. de Lanessan desires that our offensive forces should be distributed with a view to strategical needs on the outbreak of war. Perhaps it might be as well first to determine what and with whom this war will be. M. de Lanessan supposes it will be with one Power alone, but there is nothing permitting us to assume that this will be so, and even if this should be the case, it would be necessary in the first instance to unite our squadrons. The partition of our squadrons along our coasts is the application of the theory of '*petit paquets*,' the result of which we well know. The more dangerous the enemy, so much the more is it necessary to concentrate our efforts, and any distribution of the fleet in time of peace which would render its concentration in time of war more difficult is a mistake. The objection urged is that by doing so, we leave our coasts undefended, and subject to bombardment and invasion, but to act on the defensive is not the way to employ a naval force; the duty of our squadrons should be to seek out the enemy and bring him to action, not to leave him master of the sea, with the idea of protecting our coasts. This is a well-established principle. 'The first duty of the British fleet,' says an Admiralty Memorandum, 'is not to defend anything, but to attack the enemy and destroy him, thus assuring protection to our possessions, to the Mercantile Marine, and to British commerce.' To destroy the enemy we must be more powerful than he is, and this superiority cannot be attained by dividing our forces. Another Memorandum of the British Admiralty is worded as follows: 'The real danger against which this country has to be prepared in time of war is not invasion, but interruption of our commerce, and the destruction of our Mercantile Marine. With this end in view, our fleet must be prepared to prevent any of the enemy's

France—continued.

ships keeping the sea long enough to cause us loss by bringing them to action."

"Eight years separate those two pronouncements of the British Admiralty, but the principle asserted in each is the same. Attack should be the sole object of a naval offensive force and this will be made all the easier by concentration, an equal distribution of our ships between the two seas which wash our coasts would therefore be a fault."

Le Temps and La Vie Maritime.

RUSSIA.

The following appointments have been made:—Vice-Admirals—von Essen to Command of the Baltic Fleet; Ebergardt to Command of the Black Sea Fleet; Sarmavski to be Commander-in-Chief at Sebastopol. Rear-Admirals—Prince Liven to be Chief of the General Staff of the Navy; Stezenko to Command of the Siberian Flotilla.

Vice-Admiral Essen highly distinguished himself during the war with Japan at Port Arthur, where he at first commanded the "Novik," being transferred later to the command of the battleship "Sebastopol," which, when the end came, he took outside the harbour and sank, rather than that she should fall into the hands of the Japanese.

The Naval Programme.

The new Naval programme has been laid by the Minister of Marine, Admiral Grigorovitch, before the Duma.

In a preliminary note the Minister lays stress on the absolute necessity for providing a powerful fleet, as an essential condition of preserving the independence of the country and as an important factor towards maintaining peace in Europe. "Russia," he lays down, "became a great Power the day her fleet was mistress of the Baltic." This mastery of the Baltic has to be regained. The absence of a Naval programme during the last six years has seriously compromised the carrying out of this urgent duty.

It is proposed that the Baltic Fleet shall be composed as follows:—

Two squadrons, each to consist of 8 battleships, 4 armoured cruisers, 8 protected cruisers, 36 destroyers, and 12 submarines; a total of 16 battleships, 8 armoured cruisers, 16 protected cruisers, 72 destroyers, and 24 submarines.

The Black Sea Fleet, which is of secondary importance, is to be stronger than a combination of the next two most powerful navies after Russia in that sea, and the following programme of new construction has been approved:—

1. Three battleships of 22,000 tons displacement, to be armed with ten 13.5-inch guns; two of the ships to be constructed at Sebastopol, at the Koloma and Krupp yard, and one at Nicolaieff at the Vickers-Maxim yard. The estimated cost of each ship is over £2,000,000. The armour of two of the ships is to be made at the Ijora works, and of the third at the Nicopol-Marionpol works, in which the Krupp firm are largely interested. The first of the new ships was laid down on the 1st October at Sebastopol, the 2nd at Nicolaieff on the 1st November. At the Nicolaieff yard it was found necessary to deepen the approaches and enlarge the slips; this has been done also at the Admiralty yard at Nicolaieff, the total expenditure having amounted to 11,000,000 francs.

2. Nine destroyers of the improved "Novik" type, with a displacement of 1,050 tons, and a speed of 35 knots. at a cost of £212,000 each;

Russia—continued.

4 to be built at the Nicolaieff yard, 2 by the Metallurgic works at St. Petersburg, 2 at the Neva yard, and 1 by the Putiloff works.

3. Six submarines: 3 to be built at the Baltic works of the Boubnov type, and 3 at the Neva yard of the improved Holland type.

New Ships.

During the past year no less than four battleships of the "Dreadnought" type have been launched for the Russian navy, which is a record in the annals of Russian shipbuilding, especially as all four ships have been less than two years on the stocks.

The "Sebastopol," built at the Baltic works, was the first to take the water, on the 29th June; the "Poltava," built at the new Admiralty yard, followed on the 10th July; the "Petropavlovsk," also built at the Baltic works, was launched on the 9th September, and the "Gangoot," built at the new Admiralty yard, on the 7th October.

These ships are sister-vessels, so will form a perfectly homogeneous division. Their dimensions are as follows: Length, 590 feet, 6 inches; Beam, 87 feet, with a draught of about 27 feet 3 inches on a displacement of 23,000 tons. The armour protection is reported to consist of a complete belt of high tensile steel from 6 feet below to 10 feet above the waterline, 8.8-inches thick, tapering to 4.9-inches forward and aft; above is a partial upper belt from the stem to within 60 feet of the stern, 4.9-inches thick, tapering at bow to 2.9-inches. The athwartships bulkheads are 4.9-inches thick; the turrets, 12 to 8 inches; barbettes, 8 inches, conning tower, 10 inches, and the ammunition tubes, 5 inches.

The armament consists of twelve 12-inch (50-calibre) guns mounted in four triple turrets, all on the centre line of the ship; sixteen 4.7-inch Q.F. (50-calibre) guns on the main deck, as anti-torpedo armament, with some smaller machine guns.

They are fitted with Parsons turbine engines, with four screws, which are to develop 42,000 I.S.P., to give a speed of 23 knots, steam being supplied by 25 water-tube boilers of the modified Yarrow small tube type. The coal capacity is 3,000 tons, with a further storage for 1,170 tons of liquid fuel. The electric light is furnished by Diesel dynamos, aggregating 2,670 kilowatts. The designs, material and workmanship of these ships have all been carried out in Russia, but we believe that the work of construction has been superintended by Messrs. John Brown and Co., of Govan-on-Clyde.

The Naval Dockyards.

The Minister of Marine has decided that for the future the Government yard at Sebastopol is to be used for repair work only, while the Nicolaieff yard, will be the building yard. All the workshops, plant, etc., used for the building of ships, will be moved from Sebastopol to Nicolaieff as soon as possible. The reason for this decision is that Nicolaieff, lying as it does up the Bug, occupies an incomparably superior position from the point of view of security in the event of war.

A new dry dock is to be constructed at Cronstadt, the first stone of which was laid on the 12th August, and which will be called the Alexis Nicolas dock, after the Tsarevitch. It is to be 800 feet long, 112 feet wide at the bottom, and 117 feet on top, with a depth of 35 feet below the surface. The electric pumps are to be capable of discharging in four hours the 120,000 cubic metres of water the dock will hold.

Marine Rundschau and Revue Maritime.

UNITED STATES.

THE UNWATERING OF THE WRECK OF THE "MAINE" IN HAVANA HARBOUR, AND
REPORT OF THE BOARD OF INVESTIGATION.

The Engineer Corps of the United States Army is to be congratulated upon having brought to a successful conclusion a difficult and unique work of marine cofferdam construction and excavation which, in this particular class of work, is without parallel in the history of engineering. We refer to the successful unwatering of the sunken battleship "Maine." Sunken vessels have been recovered in various ways, but never, so far as we know, has a ship, lying on the bottom, been salvaged from the water by the method adopted in the case in question. The recovery of a ship of six or seven thousand tons displacement, lying in 37 feet of water, upon a bed of mud and soft clay of approximately equal depth, is a problem of considerable magnitude, even when the hull of the ship is in an approximately sound condition; but when, as in the case of the "Maine," the forward part of the vessel has been blown entirely to pieces, the difficulty is many times multiplied. When the army engineers received instructions to recover the "Maine" so that every part of the ship could be subjected to thorough examination, they were confronted with a problem which they might well have pronounced impossible of solution.

The plan adopted of building entirely around the wreck a massive cofferdam extending from solid bottom to several feet above high water mark, was the subject of much criticism from the day the plans were first made public. Complete failure of the cofferdam was freely predicted by the engineering profession. Yet in spite of the difficulties due to the tendency of the mud-filled wall to leak and to yield by distortion, the fact remains that it has done its work, and that the army engineers have so far laid bare the wreck that not only will the after two-thirds of the ship be floated and towed away to be sunk at sea, but practically every part of the wrecked portion of the structure has been made to yield its quota of evidence in determining the first cause of the disaster.

The joint Army and Navy Board appointed by the Secretary of the Navy has presented its report, and an advanced official statement has been given out at Washington, which says, "The Board finds that the injuries to the bottom of the "Maine" were caused by the explosion of a charge of a low form of explosive exterior to the ship between frames Nos. 28 and 31, strake B, port side. This resulted in igniting and exploding the contents of the 6-inch reserve magazine, A-14-M, said contents including a large quantity of black powder. The more or less complete explosion of the contents of the remaining forward magazine followed. The magazine explosions resulted in the destruction of the vessel."

The investigation disclosed the fact that there is a fracture some 20 feet wide extending across the bottom of the vessel at a point about 100 feet from the bow. From the fact that the frames were still in position, though, of course, much distorted, the Board concluded that a low form of explosive was used in destroying the vessel. A high explosive would have caused a much more complete destruction of the material in its immediate vicinity. Incidentally, the report sustains the findings of the Sampson Board, which investigated the disaster in 1898, immediately after the "Maine" was blown up. That Board located the point of the exterior explosion at about frame 18 on the port side, but its report was based upon an examination by divers working in 37 feet of water. The unwatering of the "Maine" has made possible a closer approximation

United States—continued.

to the truth, and it is now disclosed that the point at which the vessel was ruptured lies between frames 28 and 31.

The after portion of the hull remains practically intact. Forward of frame 30 is a gap of about 30 feet, where the ship was cut in two, and forward of the confused wreckage lies the bow, which was blown entirely out of position, swung round to starboard, and broken off from the ship's structure at frame 14. The stern of the vessel, instead of being in the vertical position, now lies horizontally and at right angles to the keel of the vessel, a considerable section of the plating on the port side being still attached to the stern. A long strip of the double bottom lies on the top of the after edge of the severed bow, and beneath this severed portion rests a section of the keel some ten feet in length. One end of it lies in the mud, and the other end, twisted backward and upward, is now resting against the shell of the detached section of double bottom. In places the keel has been turned entirely upside down, so that some sections of the bottom platform are uppermost.

The sequence of events on the night of the disaster is now clear. A charge of low explosive, probably a large quantity, was set off below the bottom of the "Maine," forward of frame No. 30 on the port side, and a few feet from the keel. How this destructive agent was contained, at what depth it was located, and how it was set off, will probably never be known. Whether the mine was touching the ship or on the harbour bottom, the force of the explosion would seek the line of least resistance, which would lie vertically through the body of the ship. The rush of gases tore through the double bottom and the shock and heat of the explosion set off the black powder, of which there was a considerable amount in the magazine just above the point of the explosion, and this, in turn, ignited the forward magazines. The enormous energy thus liberated, having the water below and on the sides of the hull as an abutment, expended its energy in tearing asunder and folding back the overlying protective and other decks of the ship.

The illustrations which were published showing the recent wreck of the French battleship "Liberté" were strongly suggestive of similar illustrations of the wreck of the "Maine," published shortly after the event. The whole structure of the "Liberté" in the region of the explosion was opened out and folded back by the explosion of the magazines, presenting an appearance remarkably like that of the disaster in Havana Harbour. In the case of the "Maine" the magazines were set off by an exterior explosion, whereas on the "Liberté" the explosion was due to the deterioration and spontaneous ignition of the smokeless powder. It should be noted that outside of a comparatively small amount of ammunition for small arms, there was no smokeless powder on board the "Maine" at the time of the disaster.

Scientific American.

MILITARY NOTES.¹

BRITISH EMPIRE.

The King Emperor.

THE CORONATION DURBAR.—Their Majesties the King Emperor and Queen Empress landed at Bombay on Saturday, 2nd December. Delhi was reached on Thursday, 7th December. The Imperial Durbar took place on Tuesday, 12th December, when certain important administrative announcements were made by His Majesty. For further particulars of the announcements see the first article in this month's JOURNAL.

Owing to the drought and consequent scarcity it had been decided to abandon the manoeuvres, which were to have been held near Delhi prior to the Durbar; the number of troops concentrated at Delhi was largely reduced in consequence. Those present were a cavalry division, comprising the 3rd, 7th and a composite cavalry brigade; the 3rd (Lahore), 7th (Meerut) and a composite division, together with representative volunteers and Imperial Service troops; the whole, numbering some 50,000 men, were reviewed by His Majesty the King on 14th December. Their Majesties left Delhi on Saturday, 16th December.

ABOR EXPEDITION.—(Up to end of December). The advance of the main column via Renging and Rotung was slow owing to the difficult nature of the country. The Ledum column joined the main column near Kebang, which important village, the primary objective of the force, was then duly occupied. A few stockades were met with, but little fighting took place. Columns were sent in various directions and negotiations were opened with the headmen of several villages. Heavy falls of rain have occurred from time to time; the health of the force is reported to be fair.

UNION OF SOUTH AFRICA.—The draft of the Defence Bill for the Union of South Africa has been published in the Union Gazette for general information. The Bill, which will be introduced in the Union Parliament by the Minister of Defence early in the 1912 session, provides for a citizen force organized in 3 lines; an "Active Citizen Force," a "Citizen Force Reserve," and a "National Reserve." The Bill also provides for a Naval Volunteer Reserve.

PENSIONS.

The following statement has been issued by the War Office to explain the effect of the Royal Warrant relating to the new scale of retired pay, promulgated in Army Order 237 of 1911:—

Officers commissioned before 31st August, 1911, will be granted the rates of retired pay given by the new scale if more beneficial to them than their vested rights. All subalterns and captains commissioned before the 31st August, 1911, retain their right to the rates of retired pay previously in force, namely £120 a year after 15 years' service, and £200 a year on retirement for age, provided in the latter case that, at the time of retirement, they were counting service under Article 490 of the Royal Warrant. Certain captains or subalterns who would previously have been compulsorily retired at 45 years of age may now be retained until

¹ Includes notes regarding important political events in foreign countries.

British Empire—continued.

age 48 (See Article 543.B. in Army Order). Officers who were Majors before 31st August, 1911, equally retain their rights as regards the £120 a year on voluntary retirement and the £300 a year on retirement for age, irrespective of length of service; provided that, as in the case of captains and subalterns, they are counting service when retired for age. Captains or subalterns who were commissioned before 31st August, 1911, and have, therefore, the right to retire on £120 a year after 15 years' service, do not lose that right on promotion to Major, as it is reserved to them by the general regulation in Article 497 of the Pay Warrant, but they do not, through becoming Majors on or after 31st August, 1911, acquire a right to £300 a year on retirement for age, irrespective of service. Their retired pay will be determined by their service, according to the scale in the new Article 513, or according to the special terms for Majors retired for age given in the latter part of that Article. Lieutenant-Colonels lose no rights but have the advantage of the new scale should they not qualify for the maximum rates for that rank.

ARGENTINA.

COMPULSORY REGISTRATION.—A law has recently been passed which compels the registration of every male citizen over 18 years of age. The object of the obligatory registration is to prevent evasion of military service. A photograph and finger-print have to be inserted in the book which has to be kept by every citizen.

AUSTRIA-HUNGARY.

RESIGNATION OF THE CHIEF OF THE GENERAL STAFF.—Public opinion, both in Austria and in Hungary, has been much stirred by the resignation of the Chief of the General Staff, General Baron Conrad von Hoetzendorf, one of the most talented and forceful personalities in the Austro-Hungarian Army. General Hoetzendorf during his five years tenure of office has shown great energy and initiative, and has introduced many beneficial reforms into an army which is by no means the least conservative in Europe.

Press reports attribute his resignation to a conflict of opinion with Count Aehrenthal, on the subject of the policy both civil and military which should be followed with regard to Italy. It is stated that General Hoetzendorf, supported by the Heir Apparent, considered that the situation called for a series of military measures, which were, in the opinion of Count Aehrenthal, undesirable from the point of view of internal policy, and likely to provoke hostilities with Italy, and the disruption of the Triple Alliance. A letter from the Emperor has been published in which His Majesty alludes to General Hoetzendorf's services in terms of highly flattering recognition, and, while accepting his resignation, bestows upon him the post of Army Inspector at Vienna, and the Grand Cross of the Order of Leopold. General Hoetzendorf is succeeded as Chief of the General Staff by General Schemua, hitherto head of one of the sections at the War Office.

MOTOR TRAINS.—Sixty-one heavy motor trains, each weighing three and carrying five tons, have been subventioned by the War Office from various Austrian motor firms.

MOUNTED RIFLES.—It is stated in the Press that the formation of 2 squadrons of Dalmatian Mounted Rifles is contemplated. They will be mounted on cobs and hill ponies, and quartered at Sarajevo.

Austria-Hungary—continued.

CORPS OFFICERS' SCHOOLS.—New Regulations for Corps Officers' Schools have been published.

These Schools are under the direction of an Inspector-General and are intended to impart a uniform education to all lieutenants before their promotion to captain. The course of instruction given deals in detail with the various arms separately, and with their combination for battle. The War Office designates yearly the stations at which the schools, consisting of one or several classes, are to be held. A class consists of from 30-35 students, and lasts from the 1st of November to the end of July. No Officers with less than 6 years' service are eligible to attend. An army corps school certificate is a necessary condition for promotion to captain. Exceptions to this rule are only made in the case of officers who have passed the Staff College, Engineer Staff Course or Artillery Staff Course, and in the case of officers of certain non-combatant services. The commandant of each school is to be a General or full-Colonel, and 5 to 7 officers are to be appointed as instructors for each class. The following is an abstract of the subjects to be studied. Tactics; Musketry; Artillery Practice; Organization; Fortification; Siege operations; System of Ordnance supply; Supply and Transport; Medical services; Military Geography; Military History; Military Law. Each course is divided into two parts, i.e., Part 1 (Theoretical) from November to April and Part 2 (Practical) from April to the end of July. The Inspector-General is responsible to the War Office, that a high and uniform standard of instruction is kept up at the various schools.

BELGIUM.

ARMY ESTIMATES.—The military estimates for 1912 amount to £2,594,000, an increase of £196,000 on those for 1911.

Items of interest are:—

Motor lorries for the defences of Antwerp and Liège	£4,000
Barrack construction	£120,000
Guns and wagons for the re-armament of 6 of the	
12 batteries of the 5th Division	£80,000
Armament for new Antwerp forts	£120,000
Aviation School	£2,800

MILITARY DEBATE.—The introduction of the Army Estimates, in November, was the occasion of an attack on General Hellebault, the War Minister, by the Liberal Members of the Opposition, on account of the alleged defenceless condition of the country during the Moroccan crisis. The Minister's defence does not appear to have been particularly effective, amounting as it did to a reiterated statement that the organization of the army was in a "transitory" condition. Among the admissions that were elicited from the Minister were the facts that the reserves of small arm ammunition were 1,500,000 rounds short, and that eight 28-cm. guns, which had been recently purchased for the Antwerp defences, could not be placed in any existing forts, though it was stated that forts would be built which would be suitable for them.

The military debate was continued in December. The following were the chief points of interest in the various speeches of the War Minister.

Mobilization:—Units will be complete as regards personnel on the third day. The field army should be concentrated and ready to move on the evening of the fifth day.

Belgium—continued.

Meuse Forts:—Liège and Namur are considered as "places d'arrêt," bridge heads and pivots of manœuvre, but must not be regarded as entrenched camps. As organized they are perfectly capable of carrying out the rôle assigned to them. In each fort there is a permanent garrison of 75 artillerymen, which could be made up to war strength in a few hours.

Defences of Antwerp:—The cupolas of the second line will be mounted by March, 1912; the northern portion of the enceinte (where the inundations will lie) and the works on the lower Scheldt have not yet been begun. All the preliminary work is to be ready by 4th July, 1912, after which the cupolas have to be placed and the forts armed.

Horses:—25,903 horses would be required for the army when mobilized. There are 34,666 horses registered for mobilization, of which 6,497 are for heavy draught. This will leave a surplus of 8,763 at the disposal of the military authorities.

Shortage of Officers:—The shortage of officers for the field army and fortress troops at war strength is as follows:—

Infantry 427; Cavalry 2; Artillery 234; Engineers 22; Train 36; Paymasters 50; Medical 176; Total 947.

Belgian Congo.

BUDGET FOR 1912.—The following is the estimated budget for 1912:—

Receipts	...	...	£1,814,000	+	180,000
Ord. Expenditure	...	...	1,988,000	+	75,800
Extraord. „	...	...	672,000	+	672,000
Total Expenditure	...	...	£2,660,000		

The military and police forces remain practically the same. The grant for renewal of arms and munitions has been raised from £2,000 to £12,000.

The increased receipts are due to the larger number of natives who pay the native tax in money, and to the increased sale of vegetable products in the state domains.

The ordinary expenditure has been increased owing to the larger number of officials and to railway development.

The extraordinary expenditure is caused by the expenses of ceding the country to the Belgian Government, by the purchase of river steamers, by grants for the encouragement of agriculture, and by the construction of Government buildings.

BULGARIA.

POLITICAL.—M. Gueshoff (the Prime Minister) made an important statement in the Sobranje on December 14th, of which the following were the principal points:—

1. That the Bulgarian Government considered it the duty of Turkey to provide relief for the families of victims of the Uskub massacres. If this were not done the Sobranje would be informed. The Porte has declared its intention of discovering and punishing the authors of these outrages.
2. That the visit of King Ferdinand to the Emperor of Austria was private, and had no political significance. It need not cause any disquietude in neighbouring countries, nor prejudice the progress of negotiations for a Commercial Treaty with Turkey.

Bulgaria—continued.

3. That he was unaware of any negotiations between Austria and Russia for a new understanding in the Balkans, and thought that such was impossible. Both Austria and Russia aimed at peace in the Balkans, which was also the object of Bulgarian Policy.

In spite of the above statement, it is undeniable that considerable discontent exists in Bulgaria with reference to Macedonia, and the proposal for a Balkan Confederation recently mooted in Constantinople appears to stand no chance of success at present.

DENMARK.

THE SUPREME COMMAND.—It is announced by Royal Decree that in time of war, or of partial mobilization, the chief command of the land forces will devolve upon the General Officer Commanding the 1st General Command, who will co-operate with the Admiral Commanding the Fleet in the general defence of the country.

ARMY ESTIMATES.—The military vote amounts to 19½ million kroner (£1,097,200), of which 16 million kroner (£888,800) is for ordinary expenditure, and 3 million kroner (£166,600) for extraordinary expenditure, on fortification. The ordinary expenditure is increased by 700,000 kroner (£38,800), but there is a reduction in extraordinary expenditure of 3,385,000 kroner (£188,000) as compared with the current year.

ARMS AND AMMUNITION.—The number of rounds carried by the infantry soldier has been increased from 120 to 140; 40 rounds carried in each of two pouches, and 60 rounds in the haversack. The recently adopted pointed bullet of 1908 type has an increased muzzle velocity of 2,460 f.s. as compared with 1908 f.s. of the earlier type. The dangerous space for a man standing is 717 yards.

The War Office has decided that all officers, staff sergeants, and sergeants shall provide themselves with the Bayard automatic pistol; 1910 model.

RESERVISTS' TRAINING.—The reservists of the 1900 and 1901 year classes, called up under the new Army Act, attended on 15th October for their 6 days training. Non-commissioned officers of reserve battalions joined 8 days earlier, and thus underwent 14 days' training.

FORTIFICATION.—It is reported in the Press that work will be commenced at once on a new fort at the entrance to the Use Fjord, on Fiskeby Island, west of Lynaas.

FRANCE.

APPOINTMENT.—General Picard, having reached the age limit, has relinquished command of the 8th Army Corps, and has been replaced by General de Langle de Carry, who thus gives up the 4th Army Corps. The command of the latter corps has been given to General Boëlle.

CONFIDENTIAL REPORTS.—Various Ministers of War have recently made a practice of asking the prefects of Departments to report upon the political conduct and opinions of officers recommended for promotion. This practice has often been criticized in the Chambers by members of the Right, but during the late debate on the Army Estimates it was attacked by such a staunch Republican as M. Reinach. The Minister of War has now decided that prefects will usually report every half year only on officers who have been wanting in loyalty to the Republic. An officer may demand to see any adverse report.

French Colonies.

WADAI.—Official information has been received from Colonel Largeau of the submission of Dudmurrah, the former Sultan of Wadai. Dudmurrah crossed the frontier on October 14th, and gave in 107 modern rifles. He subsequently formally submitted at Abecher, together with the majority of the rebel chiefs.

FRENCH CONGO.—In July a column under Lieutenant Fillandeau carried out a punitive expedition in the country of the Essafia and Oyack tribes.

Intermittent fighting took place throughout August, culminating in a serious encounter on September 11th. The natives who were commanded by ex-soldiers of the French native forces defended the village of Okola with success, the French having 2 officers and 33 soldiers wounded, including Lieutenant Fillandeau. The territory in which these encounters took place forms part of the zone which was recently ceded to Germany.

ALGERIA.—Thirteen Algerian forts have been disclassified. These include Sebdu (except the citadel), Blidah, Relizane, and Collo. Ténès and Orléansville have been partially disclassified.

GERMANY.

ESTIMATES FOR 1912.—The North German Gazette has been publishing a tabular summary of the Imperial estimates for the next financial year. These do not foreshadow any considerable increase to the naval and military expenditure, but it is nevertheless believed that considerable expansion is to take place for both army and navy. It is rumoured that the Government is keeping both a new Navy and a new Army Bill in reserve until the political complexion of the new Reichstag is known.

IMPERIAL MANŒUVRES, 1912.—The commanders of armies at next year's Imperial manœuvres are to be Field Marshal von Bock und Polach, Inspector-General of the 3rd Army Inspection, and General Oberst Freiherr von Hausen, the Saxon War Minister, and former commander of the XIIth Army Corps.

German Colonies.

Dr. Solf has been appointed Colonial Secretary in succession to Herr Lindequist.

GERMAN EAST AFRICA: RAILWAYS.—The Usambara line has reached Moschi, and was opened for traffic on October 4th up to this point. A further extension to Arusha (20 miles) is contemplated.

The head of the Dar-es-Salaam—Tabora railway was on November 30th only 35 miles from Tabora. The line is expected to be completed by February, 1912, i.e., 2½ years before the date originally fixed.

The extension of the Central Railway from Tabora to Lake Tanganyika is now being considered by the Reichstag, and is likely to be sanctioned very shortly. Survey work on the Tabora—Lake Tanganyika line has already been commenced.

It is hoped to complete the Dar-es-Salaam—Tabora portion by the end of December, and this section will probably be open to traffic in February or March, 1912.

GERMAN SOUTH-WEST AFRICA.

MILITARY FORCES.—It is reported that lists have been prepared in all the German colonies showing the number of German civilian reservists

Germany—continued.

capable of bearing arms in the defence of their respective colonies. The contingent in German South-west Africa is said to be over 3,000 strong.

RAILWAYS.—The construction of the Karibib-Keetmanshoop railway is making good progress, and its completion may be expected in a few months. The station of Rehoboth, 2-3 miles east of the place of that name, has been opened.

WALFISCH BAY.—A settlement has been arrived at between Great Britain and Germany as to the boundary of Walfisch Bay. The survey of 1885 is to stand. The arbitrator was Don Fernandez Prida, who was appointed by the King of Spain.

HOLLAND.

ARMY ESTIMATES, 1912.—The total shows an increase of £29,921 on last year's figures. The only item of note is that the whole of the money asked for in the Fortification Budget, £53,650, is to be devoted to the improvement of the Amsterdam Position.

Supplementary estimates are to be expected later to provide for :—

1. Reorganization of the infantry.
2. Changes in the organization of the field and fortress artillery.
3. Aerial navigation.
4. Gymnastics.

MILITIA BILL.—The discussion of the Bill for the reorganization of the Militia, which was postponed till the autumn session, was resumed in the Second Chamber in October; the Bill passed the Second Chamber in November, unaltered in its provisions, and will soon become law.

DUTCH ARTILLERY COMMITTEE VISITS ELSWICK.—A commission consisting of several artillery and engineer officers and one naval officer visited Armstrong's Works at Elswick in October. The object of the visit is to decide whether orders for guns cannot be given to another firm than Krupp, whose practical monopoly has caused a good deal of outcry in Holland.

COMBINED SHELL TRIALS.—Extensive trials took place at the practice camp at Oldebroek from the 10th to the 26th October with a combined shell (system Ehrhardt von Essen) for use with the field and horse artillery. The trials are said to have had satisfactory results.

MACHINE GUNS.—The question of the provision of additional machine guns for the army is being seriously considered, and it is stated that the number of infantry machine gun sections in each infantry regiment is to be increased to 3 as soon as the material can be made available.

Of the autumn levy of militia, 8 men in each infantry regiment are to be trained in machine gun duties, and infantry officers and non-commissioned officers are being attached for instruction to the divisional machine gun detachments during November.

SUPPLY OF MAPS FOR THE FIELD ARMY.—New instructions have been issued for the supply of maps for the Field Army. The issue of coloured survey maps of the Netherlands is on a very limited scale, *e.g.*, 1 per company and 1 for the staff of a regiment, etc.; but it is intended to print off rapidly on mobilization a large number of plain uncoloured maps of the areas required, and to issue them to the troops for field use.

Netherland East Indies.

ARMY MANŒUVRES.—These took place in Java in September in spite of the fact that then cholera was prevalent throughout the colony. There

Holland—continued.

was a good deal of sickness among the troops, and several deaths from cholera. The failure of the intendance was a noticeable feature. It is rumoured that a special transport corps is to be organized, so as to avoid having to rely on coolies.

FIELD SERVICE UNIFORM.—It has been decided to introduce a new field service uniform of cotton or linen to replace the present blue cotton one.

JAPAN.

NATIONAL DEFENCE.—A strong feeling exists in military and naval circles in favour of the organization of two new divisions for service exclusively in Korea; and the increase of the navy by five first-class battleships, but these steps will probably be postponed in deference to the universal desire for retrenchment. The heart of the people is set on economy.—*Times*.

The undermentioned extract from the *Japan Chronicle* reproduces views which have lately been expressed in several quarters in Japan:—

"It appears that a feeling is growing among political parties that an Imperial National Defence Council should be organized to formulate 'the standard and backbone' of national defence. The plans for naval extension, which are based on the contest for supremacy on the Pacific, and the increase of the army, based on military supremacy in Manchuria, will go beyond all bounds if left entirely to the naval and army authorities, remarks the *Nippon*, regardless of the financial and economic situation. Even while the last (Katsura) Cabinet was in power, a scheme to establish two new army divisions for Korea, as proposed by the army authorities, was shelved. Those who are in favour of the formation of an Imperial National Defence Council maintain that the scheme of national defence must not be decided by military men, whose duty is solely to conduct warfare, by their own unrestricted judgment. The question must be carefully considered from the standpoint of diplomacy, finance, economics, politics, geography, and other practical standpoints. Such a practice as has been in vogue in this country (Japan) in which the scheme of extension is drawn up solely on the responsibility of the naval or military authorities, submitted to the Cabinet Council, and put into execution, entirely ignores the fundamental rule of national defence. In Japan the example of the European Powers and America should be followed, and a National Defence Council, composed of representatives of all branches of scientific and other interests, should be appointed, and questions of national defence should be very thoroughly and carefully considered.

"It seems that this opinion is gaining ground among politicians, and the opinion also prevails in official circles that it would be an opportune time just now to appoint such a council, and so prevent military supremacy in the administration of the country."

MEXICO.

Senor Madero was duly elected President in October; General Reyes, who at first opposed him, withdrew his candidature and left the country. During the latter part of October, the Press reported heavy fighting and lawlessness in different parts of the country. In November, Senor Madero was installed as President, and received a splendid ovation in the Chamber of Deputies and throughout the city, but fighting between the troops

Mexico—continued.

and rebels still continued. On the 18th November, General Reyes was arrested by the United States authorities at San Antonio, and was charged with conspiring in United States territory against his Government. It is reported that his plan for the invasion of Mexico was nearly ripe, and that bands had been enrolled for that purpose.

In December, General Reyes rode alone into Lujanes and surrendered to a small guard of "rurales." He frankly admitted that his dream of a successful revolution was at an end.

NORWAY.

FORTIFICATION.—It is reported in the Press that work is about to commence on the Fossum section of the Christiania defences. This section lies east of the Glommen river from Onstadsund towards Eidsberg. Completion is expected in two years.

FINANCE.—It is reported in the Press that the Storthing has authorized the formation of a special fund of 40,000,000 kroner (£2,222,000), as a reserve which may only be utilized in case of war or national emergency.

BADGES OF RANK.—The use of stripes on the sleeves to denote ranks has been abandoned for officers. The matter was put to the vote and the non-commissioned officers were in favour of retaining the stripes, whereas the officers preferred stars. Accordingly stars have been authorized for the commissioned ranks, and the non-commissioned officers will continue to wear stripes.

WINDCOAT.—A windcoat of closely woven khaki canvas has been introduced for troops in garrison, and authorized for officers and non-commissioned officers of all arms. The coat is short and light. A British officer who attended winter manœuvres in Norway discarded his "coat warm" in favour of this garment, which is quite efficient against the most piercing winds.

INSUBORDINATION IN THE ARMY.—The sentences of the Courts Martial which dealt with certain cases of insubordination, which occurred during the summer have been promulgated. The whole of the 12th Company of the Gudbrandsdal Regiment was found guilty of conspiracy to prevent the guard from marching off; 139 men were sentenced to 24 days detention, and one who, having overslept himself, arrived too late to take actual part, was sentenced to 18 days' detention. The Court added that had not the language of the commanding officer been calculated to cause irritation, the sentences would have been more severe. At Stenkjaer, men convicted of breaking into a guard room and releasing a prisoner, received sentences varying from 18 months' imprisonment, with loss of suffrage rights for ten years, to 4 months' imprisonment. In a serious case tried at Gardermoen three men accused of forcibly releasing a comrade from cells were acquitted owing to an equality of votes, the Norwegian practice being to publish the voting on a division of the court. A forcible letter, published in the *Verdensgang*, points out that the spirit of insubordination recently exhibited is largely attributable to the lack of discipline which characterises the education, both at home and at school, of the present generation of Norwegians, and urges a return to former methods.

TELEPHONES.—The Norwegian Government is inviting tenders for the supply of 100 field telephones for infantry use. Sample apparatus to be submitted by the end of January, 1912.

Norway—continued.

WIRELESS TELEGRAPHS.—The wireless telegraph service between Ingo (near Hammerfest) and Spitzbergen opened on 10th December. Attempts which have been made previously to work from Flekkers to Spitzbergen were unsuccessful.

RAILWAYS.—The extraordinary budget for the current year includes the following items:—

New construction	...	...	...	6,941,320	Kroner
Rolling stock	...	...	...	1,633,300	"
Total	...	...	...	8,574,620	"
				(£476,000).	

The Press complains that Norway is still at the mercy of Sweden in the matter of rolling stock.

OTTOMAN EMPIRE.

POLITICAL SITUATION.—The political situation at the end of December was still regarded as grave but no actual disruption in the Government had yet occurred. Proposals to amend the constitution in regard to the power of dissolving the Chamber in certain circumstances had occasioned some stormy debates. A list of supporters of the new party of "Union and Liberty," alluded to in last month's JOURNAL (page 1673) has been published. Few prominent men are included, but the managing committee is exclusively "Turkish," and mostly composed of opposition deputies.

CRETE.—The apprehensions entertained as to the behaviour of the Cretan Revolutionary Committee were fulfilled by the attempted despatch of a number of deputies to the Greek Chamber.

In accordance with the policy of the Protecting Powers to avoid any pretext for action on the part of Turkey against Greece, drastic steps were taken to prevent any deputies from reaching Greece. Measures were concerted between the commanders of the foreign "stationnaires" (which had meanwhile been increased to 2 for each Protecting Power) and the Consuls, with the result that 24 deputies were stopped on board a Greek steamer as they were on the point of leaving the island. Twelve of these deputies agreed subsequently to return, but the other eight proving recalcitrant, were kept under arrest on board the French warship "Amiral Charnier," and on H.M.S. "Diana."

The Greek authorities have generally fallen in with the views of the Protecting Powers and have deported one deputy, who managed to land before he was actually elected by the Committee in Crete.

PERSIAN FRONTIER.—No progress has yet been made regarding the signing of the Protocol for referring the frontier dispute to the Hague Tribunal. Meanwhile, there is some danger that the Turkish and Russian forces now in the Khoi—Dilman zone may come into collision. (See also "Persia.")

MACEDONIA.—Events in Macedonia have been trending in a rather dangerous direction. On the 3rd December a bomb exploded at Ishtip in a Mosque during prayer, killing and wounding 8 people. The Turkish population thereupon fell on the Bulgarian inhabitants, killing 174 persons. It is held by the Turkish Government that the Bulgarian "internal organizations" are again at work, supported by Austrian or Italian intrigues.

PERSIA.

POLITICAL EVENTS UP TO END OF DECEMBER.—As mentioned in last month's JOURNAL (page 1674-1675), on the 29th November, the Russian Minister at Tehran presented to the Persian Government an ultimatum, failing compliance with which within 48 hours, the Russian troops at Resht were to advance.

The Persian Government refused compliance, and a considerable outburst of patriotic feeling occurred throughout Persia, directed against Russia and Great Britain. The Russian Government thereupon ordered the advance of the Russian troops from Resht to Kazvin, where some 4,000 men from the Caucasus were concentrated without opposition about 12th December, preparatory to a further advance to Tehran if necessary. Repeated assurances have been categorically given by the Russian Government that their action in Northern Persia is of a purely temporary nature, and that there is no question of a permanent occupation or of an infringement of the Anglo-Russian Convention.

Sardar Assad, the Bakhtiari Chief, returned to Tehran from Europe early in December, and, owing to his influence, a movement was initiated in the Persian Cabinet to submit to the Russian demands with a view to the early establishment of internal and external relations on a sound basis for the future of the country. The Russian Government agreed to delay the advance of their troops at Kazvin for a few days in order to give the Persian Government time to arrange details for coming to terms. Meantime, the Persian Medjliss remained obdurate and absolutely declined to permit the Cabinet to make any concession to the Russian demands; as a final resource the Cabinet dissolved the Medjliss by a "coup d'etat" and took upon themselves the duty of carrying through the negotiations with Russia. On the 24th December the Persian Cabinet formally accepted all the demands of the Russian ultimatum.

On the 21st of December, affrays between Persians and Russians broke out simultaneously at Tabriz, Resht, and Enzeli. The Russians appear to have gained control of the situation after some fighting at Resht and Enzeli, but severe fighting is reported to have taken place at Tabriz, and considerable Russian reinforcements, variously reported at strengths from 500 or 600 to 3,000 or 4,000 men, and comprising all arms, part of which have already arrived, were being hurried to that place from Julfa.

It appears that the Persian Government is in no way responsible for these unfortunate incidents, which are probably due to gatherings of turbulent characters and outbursts of popular feeling organized by political agitators. The Russian Government is said to recognize this fact. Meantime (end of December) the main body of the Russian Expeditionary Force remains at Kazvin. It is estimated that the Russian troops in Persia, including the Expeditionary Force, and those at Khoi and the reinforcements sent to Tabriz, number upwards of 9,000 men at least.

The Russian Foreign Minister, M. Sazonov, arrived in Paris on the 6th December, stated in the course of an interview, published in the *Temps* of the 8th, that there was complete identity of views between Russia, France and England, and that the Persian question had afforded an opportunity of appreciating the utility of the Anglo-Russian Agreement of 1907.

TURCO-PERSIAN FRONTIER.—Owing to Turkish encroachments on Persian territory in the neighbourhood of Lake Urmia, and to an incident in which a Russian officer was wounded while escorting a Russian caravan through country held by Turkish troops, the Consular escort of the newly-

Persia—continued.

formed Russian Consulate at Khoi has been strongly reinforced, and it is said that the Russian force at Khoi now consists of 1,200 men—including guns and Cossacks.

Though orders have been issued to Russian officers to be careful to avoid any conflict with the Turks, the position on the Turco-Persian frontier is a delicate one.

100 Russian Cossacks are reported to have been sent from Kazvin to Hamadam in view of the danger existing there to Russian lives and property.

EX-SHAH.—The ex-Shah is still believed to be in the neighbourhood of Gumesh Tepe. It is reported that large consignments of rifles have been sent him and that his agents have been collecting recruits in Russian Turkistan.

It is possible that he may seize on the present as a favourable opportunity to make another bid for the throne.

ATTACK ON A BRITISH VICE-CONSUL.—A boycott of British goods, instigated by the priests, was begun early in December at Shiraz; supplies were with difficulty obtained for the Indian troops of the Consular Guard there. The ill-feeling culminated on the 24th December in an attack, apparently prearranged by officials, near Kazerun, on the British Consular Guard of Indian cavalry which was escorting Mr. Smart, the British Vice-Consul, from Bushire, to his post at Shiraz. Two men of the escort are reported killed, 7 wounded and 2 men missing.

British policy as regards Persia at present has been summarized as follows:—

1. To secure a Persian Government that will recognize the special interests of Great Britain and Russia respectively, and conform to the principles of the Anglo-Russian Agreement.
2. To refuse absolutely to recognize the ex-Shah should he persist in attempts to regain the throne.
3. To ensure that Mr. Shuster should be succeeded without delay by some foreign financial adviser acceptable to both Great Britain and Russia.
4. That when the Russian demands have been conceded, Great Britain and Russia should co-operate to enable the Persian Government to restore order by facilitating a loan or otherwise.
5. To induce Russia to waive her claim to a money indemnity.
6. To ensure that the Russian troops are withdrawn from Northern Persia as soon as Russian demands have been complied with and order re-established in Northern Persia.

As a result of the crisis in Persia, the state of the country as a whole remains chaotic; trade is at a standstill, and general unrest prevails at all main centres.

RUSSIA.

APPOINTMENTS.—Lieutenant-General Gerngros has been appointed to command the VIIth Army Corps, vice General Sakharov.

Major-General Gabaev, formerly commanding the 1st Brigade of the Caucasian Grenadier Division, has been appointed to the command of the Expeditionary Force to Persia, which recently landed at Enzeli. Major-General Bokshchanin, formerly commanding the 1st Caucasian Rifle Brigade, has

Russia—continued.

been appointed to command the force which marched for Khoi (North Persia) at the beginning of December.

NEW (OR 2ND) CLASS OF EXTENDED-SERVICE NON-COMMISSIONED OFFICERS.—The supply of experienced and reliable non-commissioned officers qualified to act as instructors has for a long time been inadequate, more especially since the term of colour-service was shortened. It has been recognized also that on mobilization the number available would necessarily be reduced by the promotion to officer's rank of the extended-service non-commissioned officers now serving as sub-ensigns, etc.

Army Order 295 of 1911 provides accordingly that the existing grades of extended-service non-commissioned officers will in future form the 1st Class, and a new or 2nd Class is to be formed.

The following have the right to apply to be enrolled in the 2nd Class :—

- (a) Under-Officers and Yefreitots of the regular army (corresponding to our sergeants, corporals and lance-corporals).
- (b) "Volunteers" approved by their commanding officers on the expiration of their term of colour-service.
- (c) Under-officers and Yefreitots who have served in the Reserve less than 2 years.

The inducements held out are promotion, permission to marry, family and other allowances and pensions.

The full complement of the 2nd Class has been fixed at 24,000, of whom 3,600 may be enrolled by the 1st October last. After that date 6,000 were to be added annually until the Class is complete.

Three 2nd-Class extended-service non-commissioned officers are allotted to the establishment of each squadron, battery and company.

INSTRUCTION OF INFANTRY UNITS IN FIELD ENGINEERING.—By Army Order 263 of 1911, the number of infantry officers and men attached annually to engineers at the Summer Camps to qualify as instructors in field engineering in their units (hitherto one officer per brigade and one non-commissioned officer or man per battalion) has been increased to one field officer per division, one company officer per regiment, and one non-commissioned officer or man per battalion. The Army Order also contains a new syllabus of instruction and instructions for an examination at the end of the course.

MECHANICAL TRANSPORT TRIALS.—The War Office trials referred to in the October, 1911, JOURNAL, appear to have showed that tractors are unsuitable for work on Russian roads, and that light lorries, carrying 1½ tons are best; while no type of car yet produced will negotiate the unmetalled tracks. The competing vehicles were all of foreign manufacture, as the Russian built cars which had entered did not start. The British competitors were "Luton Commercial Cars," and "Halley, Glasgow."

MACHINE GUN PRACTICE CAMPS.—Russian Army Order 321/1911 directs the establishment of annual practice camps for machine gun detachments. These camps may be divisional corps, or district camps according as range facilities permit; but no camp of less than 4 machine gun detachments may be formed. The camps will be attended by all cavalry and infantry machine gun detachments, and the course will last for 15 days. The programme will commence with a close inspection of personnel and matériel. The field firing will take place partly to show the effects of

Russia—continued

fire against various kinds of target, and partly as tactical exercises in which other troops will co-operate with the machine gun detachments. Infantry battalions will be attached to the practice camps for the latter purpose.

LAW OF MILITARY SERVICE.—The proposed Bill to modify the law of liability to military service was discussed at a secret sitting of the Duma on the 13th December. The speeches delivered on the occasion were, however, printed in extenso in the newspapers on the following day. General Jilinski, the Chief of the General Staff, pointed out that the Law of 1874 regarding military service was out of date as it stood now, chiefly owing to the reduction of the term of service with the colours to 3 and 4 years, and to the great number of the upper classes who were exempted from military service on educational grounds. Three years ago the deficiency of officers in the army in peace time amounted to some thousands, but the War Minister had now succeeded in reducing it to 330. It was hoped that this deficiency, and the further deficiency in persons available for appointment as officers in the event of mobilization, would be met by the new proposals regarding the colour-service of the educated young men who entered the army on special terms as "volunteers." Another result expected was that the conscription would now fall more equitably on all classes and on all localities in the Russian Empire.

BOY SCOUTS IN FINLAND.—A report in the Press states that the boy scout movement in Finland has been suppressed. This movement had made rapid progress, and the anti-Finnish Press urged that it was furnishing a military training which would be used against Russia.

RAILWAYS: THE AMUR RAILWAY.—The Minister of Ways and Communications has made an inspection of the works in company with the Governor of the Priamur. In a telegram to the Tsar he reports that the work is progressing satisfactorily, and that some 50,000 workmen, exclusively Russians are employed. He forecasts that the rails will be laid to the Zea River (Blagovyeschensk) early in 1913. A report in the Press states that the work carried out this year on the "centre" section is satisfactory, considering the unavoidable delay in the transport of labour and material caused by the low water in the Amur and Shilka rivers.

A large number of labourers will remain on the line throughout the winter, so that the work may be commenced without delay when the season reopens next year, and it is hoped that it will then be possible to lay the track without interruption.

THE CAUCASUS RAILWAY.—The committee of European experts in tunnel construction, appointed to consider the schemes for a railway over the Caucasus range, has pronounced in favour of the Arkhot route. The tunnel will be about 14 miles long, and its cost is estimated at £10,520,000. Sufficient water power exists locally to supply electric energy for the work, which will take 8 or 9 years to complete.

FRONTIER RAILWAYS IN POLAND.—It is announced that the Russian Government has decided to exercise its right to purchase the Warsaw-Granitsa, Warsaw-Kalish, and Skernevits-Alexandrovo lines, all of European gauge, leading to the Austrian and German frontiers.

Russia—continued.

Consent has been given provisionally to the construction of a railway from Lodz through Plotsk to Karv on the Prussian frontier.

TELEGRAPHS.—The trunk telephone line between Tiflis, Elizavetpol, and Baku has been completed. Work has been commenced on the Moscow-Kharkov telephone line.

A submarine telephone cable to connect St. Petersburg with Kronstadt has been laid from Lisi Nos to the latter town. The cable is 6½ miles long and contains 14 pairs of wires.

The wireless telegraph stations at Petrovsk and Fort Alexandrovsk on the Caspian Sea have been completed. A Bill is before the Duma providing for a credit of £950,000 for new telegraph construction.

ROAD BRIDGE: ST. PETERSBURG.—The Peter the Great bridge across the Neva has been opened. The bridge has 3 spans, the centre span opens, and the total length of the bridge is 1,050 feet.

RUMANIA.

ARMY.—Owing to 3 consecutive good harvests the financial position in Rumania is excellent and will permit a considerable outlay on the Army. The Budget shows a surplus of £2,200,000, a large portion of which amount will be devoted to military expenditure. The ordinary military Budget shows an increase of £500,000 on 1910, and a loan of £4,000,000 for military purposes is under consideration.

SERVIA.

ARMY.—The Military Budget for 1911 shows a small increase on 1910, but there are still no indications of the much discussed army reorganization being carried out.

King Peter's visit to France is generally considered as a great success.

SWEDEN.

INTERNAL POLITICS.—The General Election in October resulted in a defeat for the Conservatives; a Liberal Ministry has been formed, but the new Government depends for its existence upon Socialist support. The change of ministry may result in reductions in the military votes which have been vigorously opposed in the past by the Liberals; the new War Minister is M. David Bergstroem, who has been serving as Consul-General at Helsingfors; it is a new departure in Swedish politics that the Ministers of War and Marine are civilians.

COMBINED MANŒUVRES.—Naval and military combined manœuvres on a small scale were held near Karlskrona from 6th to 11th September. The defending land forces consisted of the garrison of Karlskrona; the attacking land force, which included two battalions of the Kronoberg Regiment, and a detachment of field artillery, was embarked on the warships. A landing effected was judged to have been repulsed. The result of the operations was, according to the Press, that Karlskrona was shown to be sufficiently strong to resist a surprise assault by superior forces.

SKI-ING COURSE.—A course of ski running has been arranged in connection with the Norbotten Regiment. About 350 conscripts will be attached from various districts to undergo the training.

Sweden—continued.

MILITARY BUDGET, 1912.—The estimates for 1912 showed an increase over those for 1911 of £145,633. The Military Committee of the Riksdag effected a reduction of £25,617. The amounts voted are as follows :—

Ordinary expenditure	...	...	...	£2,780,420
Extraordinary expenditure	...	...	...	£370,518
Total	...	...	...	£3,150,938

The chief increases are :—

Ordinary expenditure	1912.	1911.
Remounts	£52,571	£39,372
Barracks, maintenance	£70,022	£63,702
Barracks, lighting, &c.	£105,534	£98,824
<i>Extraordinary expenditure.</i>		
Artillery matériel	£44,444	Nil.
Balloon and telegraph matériel	£3,277	Nil.
New Barracks	£180,555	£55,555

The vote for artillery matériel will probably be expended on new howitzers, of which six 4-gun batteries will be formed to commence with. It is proposed to purchase 40,000 rifles during 1912.

ENGINEERS.—A Royal Decree directs that the inspection of the training of the engineer troops shall be carried out in future by the generals commanding the army divisions.

SWITZERLAND.

ARMY.—The Federal Government are seriously considering the training of soldiers as Ski-patrols. An article in the November issue of *Allgemeine Schweizerische Militärzeitung* points out the value of training troops in the use of ski for operations carried out in the winter.

The military budget for 1912 provides for 1,193 more recruits than in 1911.

RAILWAYS.—A new tunnel connecting France and Switzerland is to be constructed between Frasnès (France) and Vallorbe (Switzerland). This tunnel will shorten the distance between Paris and Milan by 10½ miles, but will not affect the distance between Calais and Milan.

AERONAUTICAL NOTES.**BRITISH EMPIRE.**

COMPETITION FOR A MILITARY AEROPLANE.—The following are the conditions laid down and prizes offered by the War Office for a competition to fulfil the requirements of the accompanying Specification for a Military Aeroplane.

The prizes to be awarded by the War Office on the recommendation of a Committee, which will judge the tests, and will decide whether any machine submitted is to be subjected to any test.

A.—Prizes open to the World for Aeroplanes made in any Country :—

1st prize	...	...	...	...	...	£4,000
2nd prize	...	...	...	...	...	£2,000

B.—Prizes open to British Subjects for Aeroplanes manufactured wholly in the United Kingdom, except the Engines:—

1st prize	... ..	£1,500
Two 2nd prizes	... ..	£1,000 each
Three 3rd prizes	... ..	£500 „

No competitor to take more than £5,000. The War Office to reserve the right to vary the proportions of totals under A and B between the various prizes if the merits of the machines warrant it, or to withhold any prize if there is no machine recommended for it by the Testing Committee.

The War Office to have the option of purchasing for £1,000 any machine awarded a prize.

The owners of 10 machines which are submitted to all the flying tests and are not awarded a prize to receive £100 for each machine so tested.

Oil and petrol to be supplied free for the tests.

The place of delivery of aeroplanes entered for the competition will be announced later.

SPECIFICATION FOR A MILITARY AEROPLANE.

The following conditions are those required to be fulfilled by a military aeroplane:—

- (1) Be delivered in a packing case suitable for transport by rail and not exceeding 32 feet by 9 feet 0 ins., by 9 feet 0 ins. The case must be fitted with eyebolts to facilitate handling.
- (2) Carry a live load of 350 lbs. in addition to its equipment of instruments, &c., with fuel and oil for 4½ hours.
- (3) Fly for three hours loaded as in Clause (2) and maintain an altitude of 4,500 feet for 1 hour, the first 1,000 feet being attained at the rate of 200 feet a minute, although a rate of rise of 300 feet per minute is desirable.
- (4) Attain a speed of not less than 55 m.p.h. (in a calm loaded as in Clause (2)).
- (5) Plane down to ground in a calm from not more than 1,000 feet with engine stopped, during which time a horizontal distance of not less than 6,000 feet must be traversed before touching.
- (6) Rise without damage from long grass, clover, or harrowed land in 100 yards in a calm, loaded as in Clause (2).
- (7) Land without damage on any cultivated ground, including rough plough, in a calm, loaded as in Clause (2), and pull up within 75 yards of the point at which it first touches the ground when landing on smooth turf in a calm. It must be capable of being steered when running slowly on the ground.
- (8) Be capable of change from flying trim to road transport trim and travel either on its own wheels or on a trolley on the road; width not to exceed 10 feet.
- (9) Provide accommodation for a pilot and observer, and the controls must be capable of use either by pilot or observer.
- (10) The pilot and observer's view of the country below them to the front and flanks must be as open as possible and they should be shielded from the wind and able to communicate with one another.
- (11) All parts of aeroplane must be strictly interchangeable, like parts with one another and with spares from stock.
- (12) The maker shall accurately supply the following particulars which will be verified by official test.

British Empire—continued.

- (a) The H.P. and the speed given on the bench by the engine in a 6 hours' run.
- (b) The engine weight, complete (general arrangement drawing), and whether air or water cooled.
- (c) The intended flying speed.
- (d) The gliding angle.
- (e) Weight of entire machine.
- (f) Fuel consumption per hour at declared H.P.
- (g) Oil consumption per hour at declared H.P.
- (h) Capacity of tanks.
- (13) The engine must be capable of being started up by the pilot alone.¹
- (14) Other desirable attributes are:—
 - (a) Stand still with engine running without being held. Engine preferably capable of being started from on board.
 - (b) Effective silencer fitted to engine.
 - (c) Strain on pilot as small as possible.
 - (d) Flexibility of speed; to allow of landings and observations being made at slow speeds if required, while reserving a high acceleration for work in strong winds.
 - (e) Good glider, with a wide range of safe angles of descent, to allow of choice of landing places in case of engine failure.
 - (f) It is desirable that the time and number of men required for the change from flying trim to road trim, or packed for transport by rail and vice versa, should be small, and these will be considered in judging the machine. The time for changing from road trim and packed condition to flying trim to include up to the moment of leaving the ground in flight, allowance being made for difficulty in starting engine.
 - (g) Stability and suitability for use in bad weather and in a wind averaging 25 miles per hour 30 ft. from the ground without undue risk to the pilot. Stability in flight is of great importance.
 - (h) The packing case for rail transport to be easily dismantled and assembled for use, and when dismantled should occupy a small space for storage.

AUSTRIA-HUNGARY.

AVIATION.—The formation of a Volunteer Air Corps, on the lines of the existing Volunteer Motor Corps, is under consideration. It will be divided into three sections, one for balloons, one for dirigibles, and one for aeroplanes. The organization of "Flying Machine Parks" is engaging attention. It is reported that such parks, consisting of 4 machines and 4 pilots, are to be allotted at the rate of one each to the first fifteen army corps. There would thus eventually be 15 Flying Machine Parks, with 60 machines and 60 pilots.

FRANCE.

DIRIGIBLES.—Two new military dirigibles have been undergoing trials during the past month. The "Lieutenant Selle-de-Beauchamp" has been constructed by the Lebaudy firm, and has a capacity of 10,000 cubic metres (about 350,000 cubic feet), with a length of 89 metres (292 feet). The

¹ It has since been officially stated that the intention of this condition is that the pilot must be able to start his engine and get under weigh without aid of any kind from his assistants

France—continued.

second dirigible is a Zodiac Scout, and has received the name of the "Capitaine Ferber." During the first trial the airship carried 9 persons and 2,645 pounds. The "Adjutant-Reau" has beaten the altitude record for airships by ascending to 2,150 metres (8,000 feet), with 6 persons on board.

AVIATION.—According to the press, General Roques has made the "brevet d'aviateur militaire" more severe, by increasing the length of the obligatory flight from 100 kilometres to 150 (94 miles) for monoplanes and 120 for polyplanes.

GERMANY.

DIRIGIBLES.—A new Zeppelin dirigible is said to have been ordered by the military authorities, thus showing that the rigid type has not been abandoned.

AEROPLANES.—The German airman Euler has been making successful trial flights on the practice ground at Darmstadt with a new type of triplane.

HOLLAND.

REGULATION OF AERIAL TRAFFIC.—A new bill has been introduced into the Second Chamber dealing with the provisional regulation of aerial traffic. Certificates of proficiency will be required from pilots, and the assistance of the Netherlands Aeronautical Association is to be obtained in carrying the law into effect.

DUTCH EAST INDIES.—Three officers, who have obtained their pilot certificates for aeroplanes, are expected to arrive shortly in the Indies with their machines. The Commander-in-Chief is stated to be opposed to the training of additional officers as aviators, but favours the employment of civilian pilots, with staff officers as observers. Nevertheless, it is anticipated that several more officers will be trained as aviators in the near future.

RUMANIA.

Special attention is being devoted to aviation. It is said that 60 flying machines of different types will be ordered.

SWEDEN.

It is reported that the Swedish military authorities are about to purchase several military biplanes in France; and that a school for the instruction of naval and military officers in aviation will be opened in Sweden.

Application is being made to the Riksdag for a special grant of £2,450 for the instruction of Swedish officers abroad in flying, and for the purchase of an aeroplane. An annual credit of £1,055 is requested for instructional and experimental purposes.

UNITED STATES.

AVIATION.—It is reported in the Press that the Aviation School has been removed from College Park to Augusta, Ga., where the climate is more suitable for aviation purposes during the winter months. Experiments in connection with dropping bombs from an aeroplane have recently been carried out at College Park. On two successive occasions a 25 lb. steel shell was released when flying at 40 miles per hour. The bombs were dropped from a height of 500 feet, and were aimed at a 30 ft. circle. Neither of the bombs attained the mark. At a height of 600 feet the results were even less satisfactory.

THE SPANISH OPERATIONS IN THE RIFF.

The conclusion of peace with the Riff chiefs in November (See December JOURNAL, p. 1673), was followed by a considerable reduction of the Melilla garrison. Nevertheless, minor attacks on the outposts continued, and the Moorish "harka" was known to be drawing reinforcements from distant parts of Morocco. During the third week of December the attitude of the tribesmen became so threatening that special precautions were taken to guard against surprise, and some mobile columns, consisting of 2 battalions, 1 squadron, and a section of Q.F. guns each, were organized and held in readiness. At dawn on the 22nd December the Moors were seen to be crossing the Kert River and working up the ravines between Ras Medua and Tauriat Zag. Colonel Aizpuru's mobile column, working in conjunction with those of General Ros and Colonel Tomaseti, took the offensive and forced the enemy to recross the Kert near its mouth, where they came under fire from the "Infanta Isabel." An incident of this day's fighting was the complete overthrow of a Moorish force, which was enveloping the flanks of one of the mobile columns, by a charge of 2 squadrons of Spanish cavalry.

The Spanish casualties amounted to 90, including 9 officers.

On the 23rd December the enemy, now some 4,000 strong, delivered an attack on the Tauriat Zag position. It was observed that, contrary to their usual practice—which is to fight on a wide front without supports or reserves—the Moors advanced in compact masses, which co-operated with each other so as to bring a convergent fire on the conical hill top. The attack was renewed in the night, and on the morning of the 24th the enemy were seen to have occupied some heights completely overlooking the Tauriat Zag post. Here they were attacked by the Spanish mobile columns supported by artillery fire from Tauriat Zag. A company of the Cernola Regiment, the vanguard of General Ros' column, was first to reach the summit, and was for some time engaged in a fierce hand to hand struggle on the narrow crest—only 25 yards wide—before the main body arrived in support. Lieut.-Col. Bernaldez, commanding the vanguard, was mortally wounded, and died cheering on his men. By nightfall the hill was in the possession of the Spaniards, the enemy, whose losses were heavy, retiring under cover of the darkness. General Ros' troops bivouacked in the captured position.

On the 27th December General Aldave ordered a forward movement, apparently with the intention of clearing the enemy from the right bank of the Kert. The advance was made in five columns, touch being maintained as far as was possible in the rocky and broken country. General Ros' column, which was on the flank, appears to have become separated by about 1,000 yards from the next troops. The columns were in communication with each other, and with the post of Ras Medua by heliograph, and with Melilla by carrier pigeon. General Aguilera, who was in immediate command of the operations, accompanied one of the columns.

The enemy were driven back at all points and withdrew down stream towards the mouth of the Kert; here they came under fire from the Spanish gunboats and, finding their retreat threatened, they turned and hurled their whole force upon General Ros' column (2 battalions Melilla Regiment, 1 company Segorbe Regiment, 1 mounted battery, 1 squadron), which was just preparing to bivouac close by the river. For two hours the Moors were held off by repeated bayonet charges; Colonel Gomez commanding the Melilla Regiment, was killed, and General Ros himself was

wounded in the neck. At 6 p.m. General Carrasco's column arrived in support, and the Moors were driven off, leaving the ground covered with their dead. The Spanish losses were given as: officers, 6 killed, 16 wounded; other ranks, 51 killed, 210 wounded.

These operations for clearing the right bank appear to have been successful, and on the night of the 29th December the troops were entrenched in their new positions, Carrasco's column being almost on the river bank.

It was officially announced at the end of December that there were 25,000 troops in Melilla and that General Aldave did not require more. Nevertheless, reinforcements were to be held in readiness at Algeciras, Almeria, and Malaga. It was further stated in the Press that General Villalon's brigade was to embark at Malaga for Melilla about the 1st of January, by which time its strength would be about 3,000. On the 8th January it was reported in the Press that 7,000 fresh troops had landed at Melilla.

THE WAR IN THE MEDITERRANEAN.

(A) Naval Events.

ITALY.—There were few naval events of importance in December. The II Squadron remained after the beginning of November, 1911, in the harbours of southern Italy; the vessels of the I Squadron were distributed among the ports of Cyrenaica. The old battleships "Italia" and "Lepanto" were mobilized in order to relieve certain vessels of the Training Division. The "Vettor Pisani" and a portion of the vessels under the Duke of the Abruzzi lay idle at Taranto from the middle of November to the middle of December. A few destroyers and high sea torpedo-boats patrolled the Ionian and Aegean seas and the coasts of Syria and Asia Minor. On the 15th December the First Division came in to Taranto and the Training Division to Spezia. All the ships took in supplies and the flag officers went to a conference at Rome.¹

It is officially announced that security has been established in the Red Sea, and that the normal lighting arrangements of the coast of Erythrea will be resumed.

TURKEY.—The Turkish ship "Kaiserieh" flying the Red Crescent flag was captured by the "Puglia" in the Red Sea; it is alleged that she was not a genuine hospital ship and was being used as a transport. A sum of £30,000, said to be destined for the Turkish authorities at Hodeidah, was taken by an Italian war vessel from an Egyptian steamer.

The passage of merchant ships through the Dardanelles continues practically unrestricted, though the Turks have instituted certain precautionary regulations which are considered reasonable at the present juncture. The Russian proposals for a modification of existing conditions regarding ships of war have, apparently, been abandoned.

¹ *Marine Rundschau*, January, 1912.

(B) Military and General.

ITALY.—The numbers under arms in December were estimated to be:—

- (a) Normal establishment: Long service personnel, 40,000; 1890 year class, 95,000; 1891 year class (recruits), 127,000. Total, 262,000.
- (b) Above establishment: Reservists of the 1889 year class, 63,000; Reservists of the 1888 year class, 60,000. Grand total, 385,000 men.

Of these 385,000 some 120,000 had been despatched to Africa by the middle of December, and had been distributed as follows:—

Tripoli, 70,000; Benghazi, 25,000; Derna, 15,000; Homs, 5,000, Marsa Tobruk, 5,000.¹

The troops at or near Tripoli now include a part of the IVth Division; a new brigade (Maj.-Gen. Ciano), 20th and 79th Regiments, is said to have been sent to Cyrenaica. The Vth Division (34th, 35th, and 89th Infantry, and two Alpine battalions) were still, in December, said to be in Italy awaiting orders; the 19th Guides and the 30th and 61st Regiments had also been mobilized. The Coast and Fortress Artillery of the 1889 class had been recalled to the colours, and the 7th and 8th Fortress Regiments had left their garrisons for Tripoli. Various categories of captains on half-pay, and 1150 2nd lieutenants of the 1888 and 1889 classes have been recalled to permanent service, and posted to regiments.

On the 9th December the following new formations were authorized with effect from January 10th, 1912:—

Infantry: 24 line battalions; 3 Bersaglieri battalions. Cavalry: 5 squadrons. Artillery: 6 field batteries; 12 mountain batteries; 12 fortress companies. Engineers: 6 companies. A corresponding increase of officers was authorized, viz. —Infantry, 342; Cavalry, 21; Artillery, 112; Engineers, 20; Carabinieri, 20.

Some ship loads of railway material have been landed at Tripoli, and have been used, in part, to link Tripoli and Ain Zara.

There are wireless stations at Marsa Tobruk, Derna, Benghazi, and Pisa; the stations in Cyrenaica communicate with Coltano near Pisa.

TURKEY.—Further Turkish military measures for the defence of the European and Asiatic coasts, in addition to those reported in last month's JOURNAL, comprise:—

1. Movement of the Rodosto Nizam Division to the Gallipoli Peninsula.
2. Despatch of troops (6 battalions) for the defence of Cavalla and the Isle of Thasos.
3. The mounting of fortress guns at Makri, near Dedeagach.
4. Despatch of the heavy brigade of 10.5 cm. Q.F. guns to the Dardanelles, and of 2 batteries of the heavy brigade of 15 cm. Q.F. howitzers to Smyrna.
5. Partial or full embodiment of the Smyrna and Aidin (1st class) Redif Divisions (15 battalions) and their distribution on the coast or in the islands.

A sum of half a million sterling has been demanded for mobilization expenses in connexion with the war, but the amount may be obtained by private subscription.

(C) Land Operations.

TRIPOLI.—It appears that the Turkish force, on retiring from Ain Zara towards Gharian on the 5th December, left detachments at Azizie

¹ *Marine Rundschau*, January, 1912.

and near Tarhuna, thus maintaining connexion with the Turco-Arab forces round Homs, and in Cyrenaica. The Italians proceeded to strengthen Ain Zara and to clear the oasis; Tajura and Zanzur were occupied without opposition on the 13th and 17th December respectively, and reconnaissances were pushed to the south and east of Ain Zara. On the night of the 18th—19th a force of 3 battalions of infantry, 1 squadron, and 2 mountain guns, some 1,700 in all, under Colonel Fara, set out from Ain Zara to attack the oasis of Bir Tobras, 10 miles distant, which had been re-occupied by the enemy. The column appears to have missed its way in the dark and at 10 a.m. became engaged with some 4,000 of the enemy holding a strong position near Bir Tobras. Colonel Fara, finding that his flanks were being enveloped, concentrated his force in a square formation, and entrenched; in this position he beat off a succession of attacks, which continued until late into the following night, and were pressed—in some cases—to within 50 yards of the zareba.

At 4 a.m. on the 20th, the Italians were able to withdraw unmolested to Ain Zara, taking their wounded with them. For his skill and gallantry on this and many previous occasions, Colonel Fara was promoted to Major-General. This action was the last military event of note in the western part of the theatre of war. At the end of the year the Arabs were stated to have been cleared from the oasis as far as Lake Melleha, between which point and Gargaresch, the country was in possession of the Italians.

In the middle of December the Turkish forces were believed to be distributed: main body near Tarhuna, 35 miles S.E. of Tripoli; and a detachment near Azizia, 38 miles south of Tripoli; while the seat of Government had been established at Siam, 110 miles south of Tripoli. Nischat Bey had been appointed Vali of the province.¹

In spite of the loss of Ain Zara the spirit of the Turkish troops is reported to be excellent, while the Arab levies are said to be in no way discouraged.

Considerable Arab reinforcements are reported to have arrived from Fezzan after a 48 days' march.

CYRENAICA.—The Turco-Arab forces in Cyrenaica displayed increased activity during December. The camp of Enver Bey, who is commanding the Turks in this quarter, is said to be at a spot 17 miles east of Benghazi, with two strong detachments, posted wide on either flank.²

Fighting is reported in the Press at Marsa Tobruk (22nd December), Benghazi (15th, 22nd, 25th December), and Derna (16th and 26th December). On the latter occasion an Italian force of 4 battalions, with 6 mountain guns and 8 machine guns, had marched out from Derna to protect a working party repairing the aqueduct, and became engaged with a superior force of the enemy, who began working round their right flank; this movement of the enemy was checked by a counter attack by two fresh Italian battalions, who arrived in support. The colours of the 26th Regiment were, for a time, the centre of a fierce struggle; finally, the enemy were driven off by a vigorous bayonet charge, leaving 100 dead on the field. The Italian losses were 4 killed and 77 wounded. On this occasion, the Turks made use of artillery; it appears that many of their field batteries in Tripoli were re-armed with Krupp Q.F. guns, M. 1903, during last summer.

¹ *Marine Rundschau*, January, 1912.

² *Times*.

Sidi Berrani, between Marsa Tobruk and Sollum, was occupied by the Italians at the end of November, in order to check the traffic in contraband of war along the coastal caravan road.

(D) Aeronautical Services.

The following details regarding the aeronautical service in Tripoli are condensed from *Streffleurs Militärische Zeitschrift* for December, 1912:—

At the end of November 8 military pilots, with 9 machines, had arrived in Africa. Of these six were at Tripoli, viz., 1 Etrich, 2 Nieuport, and 2 Bleriot monoplanes, and perhaps a Farman biplane; and three at Benghazi, viz., 1 Bleriot monoplane, 1 Asteria biplane, and a Farman machine. The pilots all belonged to the aviation section of the Specialist Battalion. The first flights, carried out soon after landing, were made to test the atmospheric conditions, and also to inspire the natives with awe of the new invention. Flights were now made daily in the early mornings for gradually increasing distances into the desert. Important reconnaissances were made on the 22nd, 23rd, 25th and 26th October, and resulted in locating the enemy's camp at Ain Zara, and in giving early notice of approaching attacks. For the first time in the history of war the commanding general was able to obtain his information entirely without the aid of his cavalry. The Italian pilots did not carry observers, and they maintain that they can do quite well without them; nevertheless they appear to have found difficulties in reconnoitring over the oasis, since the pilot's seat is so far back that he can only see the country well to his front. This was especially noticed in the case of the monoplanes, in which the field of view is restricted by the motor in front, and by the planes on either side. Lieutenant Gavotti, who used an Etrich machine with an Austro-Daimler motor, got over this difficulty to some extent by substituting a transparent sheet of celluloid for part of the fabric under the seat. The difficulties of orientation in the desert are said to have been great, owing to the absence of conspicuous landmarks. As the machines were not fitted with wireless apparatus, all information had to be brought back by the pilots themselves. A height of about 2,000 feet, and a speed of 50 to 60 miles an hour were found to be most suitable for flight with the monoplanes; this height allowed of good observation and comparative immunity from fire. On the 22nd October Captain Moizo came down as low as 1,000 feet, in order to see better, and received several shots through the planes of his machine. Another reason for flying high was the disturbance of the air caused by the explosions of heavy shells, especially those from the naval guns. On the 23rd October Captain Piazza flew into the "air-crater" of a 30.5-cm. shell while reconnoitring at a height of 900 feet, and completely lost his balance.

Attempts to use the aeroplanes for offensive purposes were made by Lieut. Gavotti on the 1st November, and afterwards by other pilots. There are, however, no reliable data as to the result.

In order to provide some airmen for Derna and Tobruk 10 civilian pilots were allowed to volunteer with their machines for military service. The command of the group allotted to Tobruk was given to a deputy named Montu, an enthusiastic airman.

(E) Neutrals

EGYPT.—On the 18th December, a detachment of 50 Egyptian troops was sent to occupy Sollum, on the coast east of Marsa Tobruk. It was

officially explained that this step did not indicate any new development, the facts being that the Turkish Government had been informed as long ago as November, 1904, that the Egyptian western frontier ran up to and included Sollum, and this fact had also been communicated to the Italian Government. The present movement of Egyptian troops was merely due to the decision, which had been come to recently by the Egyptian authorities, to establish a frontier post at Sollum, within their own boundary.

It is understood that the Turkish Government agreed to the provisional occupation of Sollum by Egypt, till the end of the war, and ordered the withdrawal of a detachment of Turkish soldiers stationed there.

The *Times* Cairo correspondent reports that, in order to preclude the possibility of an eventual demand for an indemnity on the part of Italy, the Egyptian Government is continuing to take stringent measures for the prevention of the smuggling into Tripoli of arms and ammunition destined for the Turkish forces. With this object the coastguards have been reinforced by the detachment of infantry sent to Sollum, and by police. Posts have been established all along the coast from Sollum to Alexandria, and the western land frontier of Egypt is being carefully watched. The latter task is carried out by swift camel patrols and trackers. In the belief that attempts might be made to send contraband of war by way of the Suez Canal, posts have been established along this line as well, and a camel corps detachment and some infantry have been despatched to Ismailia. In all between 500 and 600 men, consisting of coastguards, police, Beduin trackers, and the troops mentioned, are being employed.

FRANCE.—On November 27th, a company of French camel troops occupied the oasis of Djanet. This oasis has always been claimed by the French (see October, 1911 JOURNAL, page 1349), but had been provisionally declared neutral in 1906. Djanet is an important junction of the caravan routes leading from central Africa to Algeria and Tripoli.

HOLLAND.—The Dutch civil authorities have seized all letters, telegrams and contracts of the "Compagnie Internationale d'Aviation," which had proposed to train aviators for the Turkish service; this was apparently considered as a breach of neutrality.

FOREIGN PERIODICALS.

NAVAL.

AUSTRIA-HUNGARY.

MITTEILUNGEN AUS DEM GEBIETE DES SEEWESENS. Pola: No. I. 1912.—Calculations as to the danger of contact mines. Critical comparison between the battles of Lissa and Tsushima, and the naval battle of the future. The causes of the "Liberté" disaster. The French battleships "Jean Bart" and "Courbet." The auxiliary motors of the "Quevilly." The armament of future Italian battleships. The French ships projected for 1912. High sea monitors. Destroyers for Argentina. Height and power of waves. The Turkish naval Budget, 1911-12.

FRANCE.

REVUE MARITIME. Paris: November, 1911.—Engineer officers of the British Navy. A study of the French laws dealing with wrecks and wreckage.

LA VIE MARITIME ET FLUVIALE. Paris: 10th December, 1911.—Workmen in naval dockyards. Notes on boilers. Promotion of naval personnel in foreign navies. The destroyer "Bouclier." 15th December.—The Naval Budget. Notes on boilers. Promotion of officers.

MONITEUR DE LA FLOTTE. Paris: 2nd December, 1911.—Powders and powder magazines. Torpedo nets. 9th December.—Paris as a port. 16th December.—The Navy in Parliament. 23rd December.—The torpedo 533. 30th December.—The Navy in 1911. Revolving turrets.

LE YACHT. Paris: 2nd December, 1911.—The progress of submarines. 9th December.—Subsidies for mail steamers. The destroyer "Bouclier." 16th December.—The reorganization of the naval personnel. 23rd December.—Discussion on the naval Budget for 1912. 30th December.—Useful reforms.

GERMANY.

MARINE RUNDSCHAU. Berlin: January, 1912.—The Revolution in China; its nature and causes. Preparation in peace and success in war. Great Britain in Egypt and Lord Kitchener. The XIIIth Meeting of the Society of Naval Architects. The effect of suction. The Italo-Turkish War.

ITALY.

RIVISTA MARITTIMA. Rome: November, 1911.—The cost of foreign battleships of the "Dreadnought" type. (Points out how fallacious are most comparisons of cost of ships of different nations owing to inclusion of cost of guns, etc., in some countries but not in others. Tables are added, giving the cost of the "Dreadnoughts" of the several Powers with explanatory notes.) A description of the "Barr & Stroud" range finder (with notes and diagrams illustrating the theory of the principle). Illustrations of the German armoured cruiser "Moltke" and the submarine "U.S."

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MILITARY.

AUSTRIA-HUNGARY.

STREFFLEUR'S MILITÄRISCHE ZEITSCHRIFT. Vienna: **December, 1911.**—The Bohemian Noble Lifeguards, 1813/14. Army cavalry and infantry scouts. Italy and Tripoli † (up to 25th November, 1911). The weapons and the shooting of the infantry officer- (with 8 sketches). The Franco-German Morocco agreement. The lines of communication service of the Russians in 1904/05. † (No. III., Artillery and armament.) The Chinese Revolution (with two sketches). Simple wooden bridges and footbridges. Communications from the School of Musketry. Foreign military notes; naval notes; technical notes.

FRANCE.

JOURNAL DES SCIENCES MILITAIRES. Paris: **1st December, 1911.**—The days of Le Bourget (October, 1870). The freedom of action of the higher commanders. † Competition for entrance to the "Ecole superieure de la guerre" (with sketch map). The battle † (approaching and attack). A study of the operations before Bautzen (1813). **15th December.**—Five years' experience of artillery inspections (by General Percin). The battle. † (Attack formations). The operations before Bautzen (1813).

REVUE MILITAIRE DES ARMÉES ÉTRANGÈRES. Paris: **December, 1911.**—The Chinese Army in the spring of 1911. The grand Austro-Hungarian manoeuvres of 1911. The Italian manoeuvres of 1911. Foreign notes: Austria-Hungary; Belgium; Italy; Japan; Rumania; Russia; Switzerland; Turkey.

REVUE D'HISTOIRE. Paris: **November, 1911.**—The Army of the Orient under Kleber. † (Kleber's administrative and financial measures). Marches in Napoleon's armies, † Part II. Application; (Smolensk, Lützen, Dresden). The campaign of 1813, Part II., Prince Eugene's command (The retreat from Posen to Berlin). Napoleon and the fortresses in 1814 (Defence of France and Belgium; use of inundated zones and fortifications as ordered by Napoleon). The campaign of 1844 in Morocco, the Battle of Isly. (The taking of Mogador and the Treaty of Tangier). The war of 1870-1871, the First Army of the Loire. (Operations of the 2nd, 6th, and 5th Prussian cavalry Divisions, 21st September to October 5th).

INTERNATIONALE REVUE. Cologne: **December, 1911.**—Belgium: Infantry notes. Germany: Notes on the Imperial manoeuvres. France: The military Budget for 1912; Higher Command; Cavalry. Italy: Automatic pistols; Tarento as a fortress. **SUPPLEMENT 135.**—The German Imperial manoeuvres of 1911. **FRENCH SUPPLEMENT 153.**—Influence of cavalry on the battle. Advanced posts in field war. Scouting in automobiles. Mechanical transport.

GERMANY.

JAHRBÜCHER FÜR DIE DEUTSCHE ARMEE UND MARINE. Berlin: **October, 1911.**—The coast defences of the British Empire, by Captain Stavenhagen, with map. The attack in the Battle of the Sha-Ho. The German Imperial manoeuvres in 1911. The reorganization of the higher commands in France and its consequences. Remarks on an article on machine gun fire by General Rohne, in the September number. **December, 1911.**—Mukden,

*—to be continued.

†—continued.

§—concluded.

Germany—continued.

by Colonel Balck (with two maps). The development of the army. Reflections on manœuvres. French views on dismounted action of German cavalry. Machine gun fire. Training of reserve officers. The military value of inland waterways.

MILITÄR WOCHENBLATT. Berlin: No. 148 of 25th November, 1911.—Preparatory military education in France. The Italo-Turkish War VII. 149.—The Russian Alexander Committee for the wounded. The Italo-Turkish War VIII. 150.—How to employ reserve officers in the winter. Co-operation of school and army. 151.—Moltke's plan of campaign in 1870. The attack on 13th September in the French manœuvres in September. (Continued in No. 152). Reorganization of the United States Army. 152.—Cavalry charges. Health statistics of the army in 1908-09. 153.—The French General Staff view of Moltke's strategy from 14th to 18th August, 1870. (Continued in Nos. 154 and 155.) Notes from the French Army. (Continued in No. 154.) The Dutch manœuvres in 1911. 154.—The ordnance survey in Russia. 155.—The Chinaman as a soldier. Dirigibles and aerial torpedoes. Strong positions, by General v. Falkenhäusen. (Concluded in No. 156.) 156.—The press in war time. 157.—The philosophy of war. The sieges of Kolberg and its capture in 1761. Motor vehicles. 158.—Modern war. (By General Litzmann; concluded in No. 159.) The Italo-Turkish War IX. Wireless telegraphy in dirigibles. 159.—Notes from the French Army. 160.—Riding drill for cavalry recruits. Austrian corps officers' schools. 161.—The employment of field artillery. Prism glasses. 162.—Curved fire and heavy artillery in France. The corps manœuvres in the Petersburg military district. Review of the year 1911.

SWITZERLAND.

REVUE MILITAIRE SUISSE. Lausanne: November, 1911.—War and Christianity. The grand manœuvres in Italy in 1911 (with map). The manœuvres of the 1st Swiss Army Corps in 1911. Foreign notes. Switzerland: (the new organization; order of battle of 1st and 2nd Divisions with landwehr). Germany; fortress manœuvres at Thorn. Austria-Hungary; The new Minister of War; New training manual for infantry; Cavalry manœuvres in August, 1911. Belgium; The Moroccan crisis; New uniforms (with plates); Changes in organization. France: M. Messimy's activity; The next Budget; The powder question. Italy: The Tripoli expedition (up to end of October).

UNITED STATES.

THE JOURNAL OF THE MILITARY SERVICE INSTITUTION. Governor's Island, New York: November, December, 1911.—Military service for college men. Necessity and use of electrical communication on the battlefield. Functions of the medical department of the army, especially in the field. Equipment and tactics of our cavalry, 1861-65, compared with the present. Night attacks in history (from the Japanese). Telegraph battalions and semi-permanent lines. § Review of the services of the Regular Army in the Civil War. † Types and traditions.

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†—continued.

§—concluded.

RECENT PUBLICATIONS OF MILITARY INTEREST.

COMPILED BY THE GENERAL STAFF, WAR OFFICE.

PUBLISHED QUARTERLY.

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HISTORY.

Liberal Government under the Empire. (L'Empire Liberal). Vol. 15.
By Emile Ollivier. 713 pp. 8vo. Paris, 1911. Garnier. 4s. 6d.

The fifteenth volume of Monsieur Ollivier's monumental work bears the sub-title "Were we prepared?" and deals with the much-debated question of the French preparations for the 1870 campaign.

Monsieur Ollivier's contention is that the historical remark of Marshal Leboeuf on this subject was substantially accurate. In support of this view, he cites a formidable succession of figures showing the exact quantity of men, munitions, clothing, and war-like matériel at the disposal of the French Government at the outbreak of hostilities. In addition, a plan had been prepared "complete to the smallest detail" for the concentration of the Army.

The subsequent breakdown is attributed, firstly, to the change of plan, and the consequent substitution of improvisation for organized preparation; secondly, the defective system of mobilization; thirdly, the attempt to mobilize and to concentrate simultaneously; fourthly, the incapacity of Napoleon III to deal with such a crisis, owing to the state of his health.

In addition to the strictly military part of the book, there are most interesting chapters on the general European situation at the beginning of the campaign, in which is traced the gradual triumph of Bismarck's diplomacy which led to the isolation of France.

Since the author was the head of the French Ministry during the period covered by the book, his work is of the greatest interest. At the same time, this very fact makes it difficult, if not impossible, for him to view the events of 1870 with the detachment necessary for the writing of impartial history. In spite of this fact, the evidence brought by Monsieur Ollivier in defence of his much-abused Government throws a good deal of new light on the subject of the French state of unpreparedness for the 1870 campaign.

The titles of all books are given in English: this does not indicate that the books have been translated. The original title in the language in which a work is written, if not in English is given in brackets.

A History of the War of Secession (1861-1865). Fifth Edition, revised and enlarged. By Rossiter Johnson. 576 pp. 8vo. New York, 1910. Wessels and Bissell Co.

It is not surprising that Mr. Rossiter Johnson's history of the American Civil War is popular with Northerners. It is written in a clear and pleasant style, a due sense of proportion is observed, and the strategical and political conceptions which dictated the conduct of the various campaigns are outlined with admirable lucidity, whilst the reader's attention is not distracted by a multiplicity of tactical details. The book is written for the general reader, but the military student will find in its pages much that is instructive and worthy of consideration.

It suffers, however, from one grave defect. It is persistently unfair to the South. The author's bias is partly shown in the imputation, on very slender evidence, of the worst motives to the Confederates, when their actions admit of a more favourable and also a more reasonable explanation. The secession of Virginia is explained as due to a law supposed to have been passed by the Confederate Congress at Montgomery, prohibiting the introduction of slaves from any State which did not belong to the Confederacy. The author admits in a footnote that it is impossible to prove that such a law was ever actually passed, and that no official evidence can be found upon the subject. Yet he adopts this explanation in his text, and entirely ignores the more probable view, that it was President Lincoln's call for troops after the fall of Fort Sumter which drove Virginia into secession. In the same spirit he explains the bombardment of Sumter as due to the desire of the Confederate leaders to "sprinkle blood in the faces of the people," and takes no note of the alternative explanation that it was Lincoln's declared intention to revictual the fort which forced the hand of the Confederates, who had strong reasons for not wishing to appear in the eyes of the world as the aggressors.

His bias also betrays itself in a tendency to over-estimate the strength of the Confederate Forces. It is true that the methods of calculating the strength of the opposing Armies were based upon entirely different principles, and that a deduction of perhaps as much as 20 per cent. ought to be made from the Federal estimates in order to bring them into line with those of their opponents. But one can hardly avoid the suspicion that the author has relied for his figures upon the loose estimate of their opponents' strength given by Federal generals in the field, instead of turning for information to the Official Records of the War and other available sources. For instance, he estimates Beauregard's strength at Corinth after the battle of Shiloh at 100,000 men, which is almost double Beauregard's own return.

Nor can it be said that the author has been at pains to bring his last edition up to date. His account of Chancellorsville repeats the long exploded legends of Keenan's cavalry charge and Pleasanton's artillery fight at Hazel Grove. The statement that "at every point of actual contact" in that campaign, "with the exception of Sedgwick's first engagement, the Confederates were superior in numbers," is thoroughly misleading, though in a very limited sense partially true.

Few English readers will accept his view of Jackson's "erratic strategy," or admit that "an opponent like Sheridan would have been likely to finish him at a blow."

The purpose of the volume does not allow much scope for the discussion of the many controversies which arose during and after the war; but to slur over the Gettysburg controversy with the statement that "Longstreet" was "wiser than his chief," and to accept General Doubleday's "Chancellorsville and Gettysburg" as presenting "testimony" to Meade's supposed intention of retreating on the night of the 2nd July "that seems to leave no reasonable doubt," indicate a somewhat uncritical method of weighing evidence.

The narrative on pages 101-2 seems to imply that Fort Henry surrendered to the Federals on the 3rd February, whereas the real date was the 6th. On page 243, the impression is conveyed that Sedgwick stormed the Fredericksburg Heights on or before the 1st May, though the right date, 3rd May, is given on page 246. On page 250, Colonel Hampton (Brigadier-General Wade Hampton) is spoken of as killed in the cavalry battle of Brandy Station.

An edition published in 1910 should not contain statements which the course of time has proved inaccurate, e.g., "early in the present century Sweden and Norway became one kingdom," and, again, "no such exhibition of mercy" (as was shown by the Federals to their conquered foe) "has been seen before or since." The treatment of the Confederates by their conquerors compares very unfavourably with that of the Boer States by the British Government after the South African War.

The French General Staff Account of the Campaign of 1870-71. Its Truth and its Errors. Vol. X. Part 2. (Das französische Generalstabswerk über den Krieg 1870-71. Wahres und falsches). By Colonel E. v. Schmid and Colonel P. Kolbe. 111 pp., with 1 sketch map. 8vo. Leipzig, 1911. Engelmann. 3s. 6d.

Part 2 of this work is devoted to the French "Army of Châlons," and this volume deals with the movements of the French 13th Corps (Vinoy) between the 20th August and the 2nd September. As in previous volumes, the narrative is based on the French General Staff account of the operations, and this is critically examined by the authors.

History of French Guinea. (Histoire de la Guinée française). By André Arcin. 752 pp., with 6 maps, and a large number of engravings in the text. 8vo. Paris, 1911. Challamel. 10s.

The author of this work is a well-known writer on the subject of French Guinea, and has already produced a standard work dealing with the geography of that colony. The present volume is an exhaustive treatise on the history of French Guinea, and is divided into two main parts, the first of which gives a full account of the natives and their intertribal feuds from the earliest times, whilst the second part (some 500 pages) is devoted to the history of the relations between Europeans and natives in French Guinea. This part of the book tells of the doings of the Carthaginians, Romans, Normans, Portuguese, Spaniards, Dutch, English, and French, their struggles among themselves and with the natives.

The work is not only an exceedingly interesting one from the point of view of the ordinary reader, but it is a very valuable one

from a historical standpoint, as the writer has taken obvious care to verify the accuracy of everything he says, and has inserted at the end of each chapter the text of many important documents and treaties which are highly useful for reference.

To British readers, the detailed account which M. Arcin gives of the struggles for commercial supremacy between French Guinea and Sierra Leone cannot fail to be interesting and instructive.

The maps and engravings add to the value of this work, which will doubtless find a place in most reference libraries.

The Russo-Japanese War: Opinions of, and Observations by, Some who Fought in It. (Der Russisch-Japanische Krieg: Urteile und Beobachtungen von Mit Kampfern). 153 pp., with plans bound in text. 8vo. Vienna, 1911. Seidel. 3s.

This is the second volume ¹ of a series, of which the first volume appeared at the end of 1906. A third volume is to be issued.

The portion devoted to infantry deals with establishments and replacement of losses, armament, musketry, and leading in the field. Major von Dani (Austrian Attaché with the first Japanese Army during the War) states, in contradiction to some other reliable authorities, that the war establishments of infantry units were seldom reached. Companies, according to him, fluctuated between 170 and 210 rank and file. The proportion of peace to war strengths in Japanese infantry units (men) is stated to have been as under: In a company, 1 to 1.68. In a regiment, 1 to 1.7. The book draws attention to the admitted fact that the Japanese take comparatively little interest in musketry during peace training. Very full details are given on pages 3 and 4 regarding the organization and training of Japanese *dépôt* formations, and the methods of despatching reinforcements to field units. Startling figures are given regarding the changes of personnel within units between the beginning of the War and the Battle of Mukden. Under "armament" appear details of the two patterns of rifle which the infantry carried, their durability, care of them, replenishment of ammunition supply, and stopping power. With regard to the last named, the writer quotes numerous cases where slightly wounded men quitted the fight. If thus in Japan, he says, how in European "mass-armies," permeated with anarchists, socialists, and pacificists?

On the other hand, he cites a case where an infantry captain was twice hit during an assault and only noticed it later when halting. In an attack, 40 men out of 90 in a skirmishing line are declared to have been hit, and yet not one fell when touched; the Russians vacated their position on this occasion under the impression that their fire was quite ineffective.

On pages 12-14, the relative share of rifle and bayonet in deciding a fight are considered, and many instances given of the use of the former. The following noteworthy sentences on the same subject occur on page 25: "The defender will hide his riflemen from the effects of (attacker's) fire and keep them for the final phase, the hand-to-hand fight; consequently the attacker can only convert any advantage gained into victory if he close with the bayonet. Therefore,

¹ The first volume was reviewed in R.P.M.I., No. 3, Oct., 1907,

infantry must be convinced that the bayonet fight is the life and death struggle for victory." (The italics are the author's.)

In the succeeding pages are discussed: Proportion, organization, and use of reserves; frontages; methods of advance; duration of fights; hasty entrenchments. Of advances by rushes, the writer says that they were seldom made by bodies smaller than a front of a company; also, that the tendency was to make them as long as possible, and always from cover to cover. Amongst means of intercommunication on the battlefield are mentioned relays of men lying to pass messages to and along an extended line.

In a discussion on night attacks, it is mentioned that one Japanese regiment wore square white patches on the sleeve and linen tapes crosswise over the chest; on another occasion a regiment tied these tapes to the barrels of their rifles. Japanese troops were trained to throw themselves flat down at night on hearing their opponent's commands to fire.

Of the Japanese Cavalry, Major von Dani says that the cavalry spirit was lacking, that loads were too heavy, and that the organization of the cavalry, other than divisional, was defective for the duties which fell to it. He quotes and contradicts an assertion by Sir Ian Hamilton that the Japanese troopers were dissatisfied with their carbines and desired a rifle instead. He gives instances after Mukden where the reconnoitring of Japanese cavalry failed altogether, and also gives examples to prove how seldom it charged. On the other hand, he praises its dismounted work and skilful co-operation with its infantry. He considers that the constant presence of supporting infantry bodies had a most injurious effect upon the activity of the cavalry.

The section dealing with artillery begins with a comparative tabular statement of data concerning the Russian 1900 and Japanese 1898 field guns. Sketches are given on pages 35 and 36 of the emplacements used by each side. The problem of fire effect versus cover (or positions in front versus those in rear of crests) is carefully discussed, and a sketch on page 34 shows how the Russians at the Sha-ho sought to reconcile these two conflicting factors. Pages 40 and 41 contain some data regarding expenditure of artillery ammunition in battle. Several pages are devoted to discussing the co-operation of infantry and artillery. Pages 56-65 contain a very interesting account of a Russian cavalry raid carried out against the Japanese communications south of Liao-yang shortly before the battle of Mukden.

In the section of the book entitled "Extracts from Japanese military literature subsequent to the War," the opinions of a lieutenant-colonel about heavy artillery are quoted. He considers that heavy howitzers should devote their attention entirely to damaging fire, as opposed to cover-trenches. He holds that 6-inch howitzers are the ideal armament for heavy artillery with a field army; some 4.7-inch howitzers should be added, he thinks, as some indirect-fire pieces, at any rate, should be as mobile as field artillery. He considers that a few heavy guns for demolishing buildings should be available, and names 4 inches as a suitable calibre. The proportions in which the three above-mentioned kinds of ordnance should be allotted to a field army are, in his opinion, 4, 2, and 1 respectively.

Extracts are given from a publication by the commander of a

mortar battery in the Port Arthur investing army. Apart from technical considerations about emplacements (page 76), the most noteworthy points in this are: Uneven shooting of pieces in a battery after a short time; by the end of the siege the mean diminution of range was some 250 to 380 yards.

Battery commanders could seldom control by voice; it proved more important for them to observe well than to retain direct control of their commands.

Extracts are given from the writings of several Japanese officers who had charge of machine guns during the War. These writings, although revealing conflicting opinions, constitute an exhaustive technical and tactical review of the question. Noteworthy is the repeated insistence on the necessity of handling and even repairing machine guns quickly in the dark, the advocacy of concentration of pieces during a pursuit, and the opinion of one writer that some larger calibre pieces (1 to 1.3 inches) should supplement the rifle-calibre guns so as to deal effectively with the perfected fire trenches now used in field warfare. Diagrams are added showing types of and sites for machine-gun cover.

Extracts from the Russian military Press, which are of general interest, deal with mobilization (evil effects of any undue addition of reservists), obstacles, medical and sanitary arrangements.

The work is replete with valuable military information, although in a very condensed form.

The Russo-Japanese War: History and Lessons. (La Guerre Russo-Japonaise: Historique-Enseignements). By Lieut.-Colonel Vaissière, French Army. 213 pp. and 15 maps. 8vo. Paris, 1911. Charles Lavauzelle. 4s. 2d.

The author has published a course of lectures given by him to the Quimper Garrison.

The first portion is a brief but clear and accurate narrative of the events of the War, both military and naval. The second portion deals with "lessons." The points dealt with include lack of peace preparation, indifferent higher leading, and faulty organization. Under the last named, the evil results of including in first-line units an unduly large number of reservists are brought out. Of tactical questions, grenades, machine guns, search lights and ammunition supply come in for attention; and as regards administration, clothing and field kitchens are discussed. An instructive and readable work.

A Study of the Operations of Marshal Oudinot from the 15th August to the 4th September, 1813. (Gross-Beeren. Etude sur les opérations du Maréchal Oudinot du 15 Août au 4 Septembre, 1813). By X. 134 pp., with 2 maps, one of the theatre of war and the other of the battle of Grossbeeren. 8vo. Paris, 1910. Chapelot. 8s.

The anonymous author of this volume has published several books dealing with the operations in Germany and France in 1813 and 1814. The present volume, as its title shows, is concerned with the history of the events connected with the battle of Grossbeeren.

It will be remembered that Marshal Oudinot with about 7,000 men commenced his march on Berlin on the 19th August, 1813, and that on the evening of the 23rd, in consequence of the reverse at Grossbeeren, he entirely abandoned the offensive. The casualties

sustained by Oudinot's two Janow divisions, the only ones really engaged, amounted to 83 killed and 260 wounded, whilst Durutte's division left 374 men on the field of battle. On the other hand, the Saxons lost 1,755 men, who were taken prisoners, and Durutte's division 600, whilst 13 guns were abandoned. The writer very properly argues that the large number of prisoners taken, when compared with the small number of men killed and wounded, speaks badly for the moral of Oudinot's force, and he endeavours to show the causes of this loss of moral by tracing the sequence of events leading up to the battle of Grossbeeren. The battle itself is described in considerable detail, and all the documents bearing on it to which the writer has been able to obtain access are reproduced verbatim in the appendix.

Preliminary Period of the 1813 Campaign: Murat's Command. Volume I. (Campagne de 1813—Les Préliminaires. Tome I—Le Commandement de Murat). By Major F. Reboul. 470 pp., with 6 maps. 8vo. Paris, 1910. Chapelot et Cie. 9s. 6d.

The author of this work belongs to the Historical Section of the French General Staff, and has, therefore, had the advantage of access to the archives of the War and Foreign Offices at Paris. The period dealt with, viz., from the 5th December, 1812, to the 16th January, 1813, is one which has not been often described, although it is full of interest both to the soldier and historian. Napoleon left the Grand Army at Vilna and handed over the command to Murat, King of Naples, who was by no means pleased with such a responsibility. He mistrusted his own abilities, and rightly so, for brilliant though Murat was as a cavalry and subordinate leader, he had not the qualities required for the command of an army shattered by the horrors of the retreat from Moscow. The Army had almost ceased to exist, and even men like Ney and Davout were deserted by their troops. In addition, Murat's position was rendered worse by the defection of York's Prussian Corps, and the very doubtful conduct of the Austrian General, Prince von Schwarzenberg, to whom was entrusted the task of covering Warsaw and Murat's right. It is, perhaps, not to be wondered at that Murat, with his impulsive and impressionable character, should have been overwhelmed by the difficulties of his post, but he displayed moral courage of a different kind when he left the Army and set out for Naples in direct opposition to Napoleon's wishes.

MEDICAL.

The French Army Medical Service in the Field. (La Direction du Service de Santé en campagne). By Médecin Principal de 1re. classe Troussaint, directeur du service de santé du 12me. corps d'armée. 367 pp., with 34 figures and numerous tables. 8vo. Paris, 1911. Lavauzelle. 4s. 2d.

This work has been compiled mainly for the guidance of senior medical officers who may have to fill important positions in the Army Medical Service during war.

The book begins with an introductory chapter in which the author outlines the work of the medical services in war. He also points out that an Army medical officer must thoroughly understand the organization and working of an army in the field, and must

be in the confidence of the General Staff, as otherwise he cannot possibly co-ordinate the work of the medical services with that of other branches of the Army.

The book is in two parts.

The first part is in three sections, of which the first takes the organization of the Army, elementary tactics, communications, discipline, and map reading. The chapters on tactics are by officers of the General Staff and are well worth reading.

The next section describes the supply services, pay, and the relations of the civil to the military authorities in the field.

The third section is the most important for medical officers. In the first chapter the organization of the medical service in the field is given in detail; diagrams show the position of each of the medical units, as also the chain of communication between medical units, administrative medical officers, and the General Staff of the Army.

The tactical use of the medical units and the work which these have to do in different military situations is discussed and illustrated by diagrams. Many useful figures and hints are given, among which we may specially notice the form on page 218 showing the daily position and employment of each of the medical units.

The section concludes with the Geneva Convention of 1906, the resolutions of the Hague Conference, 1899, the duties and obligations of the Voluntary Aid Societies in France, and a comparative table showing the medical organization of foreign armies.

The second part of the book discusses the duties of directors of medical services, administrative medical officers, and senior medical officers of medical and combatant units in different military situations. The rules laid down for the guidance of each of these officers are excellent, and are divided into the following sub-heads: on mobilization; during concentration; on the march; before a battle; during a battle; after a battle. For instance, the director of medical services of an army corps on mobilization is told what personal assistance, baggage, and transport he is entitled to have, and that his duties are merely to see that the medical organization of the corps is complete. During concentration his main function is to supervise the sanitation of the camps. On the march, he has to arrange for the evacuation of sick. When an engagement is about to take place, he, in consultation with the General Staff, arranges to place sufficient medical assistance at the disposal of the administrative medical officers of divisions. During a battle, the director of medical services must remain with the headquarters of the army corps and arrange to have one man from each medical unit near him to carry messages to the unit; the director of medical services must also be prepared to call up other medical units from the reserve if necessary.

After the fighting is over, the director of medical services must make a rapid survey of the situation, and furnish a report of the losses and requirements of the army corps to the headquarters of the Army, decide which units are to be immobilized and for their replacement, and arrange for the evacuation of wounded. The other appointments are similarly dealt with.

The last section gives a number of useful tables showing the probable battle casualties under different circumstances, the road

space required by different units on the march, the quantity of dressings with each medical unit, and the time required to collect and evacuate the wounded.

The book contains a mass of practical information, derived from official manuals and the writer's own experience. It should prove invaluable to medical officers of the French Army. The sections on military medical tactics are to a great extent applicable to the medical services of all armies.

The Army in the Field, compiled for the Use of Medical Officers. (Die Armee im Felde. Auszug aus den einschlägigen Vorschriften für Militärärzte). By Maximilian Ritter v. Hoen, Lieutenant-Colonel, General Staff, and Dr. Marian Szarewski, Regiments-arzt. 48 pp. 8vo. Vienna, 1910. Sfar. 1s. 6d.

This small book consists of extracts from the official manuals giving such information about an army in the field as a military medical officer ought to be acquainted with.

The first section shows the organization of the army by brigades, mounted brigades, infantry divisions, cavalry divisions, army corps, and armies. The staff and composition of each of these is given. The personnel, equipment, and transport of the medical units is given in detail.

The second section deals with supplies in the field. It shows what each man carries, the scale of travelling kitchens allowed for units, and the extra rations carried on them, as also the scheme of supply columns, parks, and depôts for an army.

A short chapter is devoted to a review of the organization and working of the lines of communication. The rules to be observed in writing reports, orders, and messages are briefly stated, and examples given. The book concludes with some tables showing the strength and road space required by different units.

It should certainly prove of great help to medical officers of the Austrian Army, as it presents in a compact form a great deal of useful information which would otherwise have to be picked out from a number of official books.

Medical Section of the Royal Prussian War Ministry. Volume 49. Part I.—The Physical Training of Youths with a View to Military Service. (Veröffentlichungen aus dem Gebiete des Militär-Sanitätswesens. Medizinisch-Abteilung des Königs: Preuss: Kriegsministeriums. Heft 49. I. Die Heranziehung und Erhaltung einer wehrfähigen Jugend). Lecture by Dr. Lothar Bassenge, Stabsarzt im Kriegsministerium. 8vo. Berlin, 1911.

This lecture contains a powerful appeal for the establishment of some form of physical training for youths during the period which elapses between leaving school and joining the Colours to undergo military training.

In a telling introduction, Dr. Bassenge quotes Friedrich Ludwig Jahn, who over 100 years ago wrote: "Only when all able-bodied men have made themselves fit to bear arms, have practised the use of arms, and are ready and willing to fight for love of their country, can a nation be strong."

To-day, as at all times, the safety of a nation lies in its armed strength. Only when a nation is able to support its wishes by armed force does it gain a hearing among the Powers; without armed force its just demands are disregarded, and its friendship

is not worth having. Armed strength restrains the warlike tendencies of its neighbours and is the best guarantee of peace.

During the last 100 years Prussia has maintained universal service; generations and generations of her sons have been trained to become efficient soldiers, her able-bodied males have devoted their physical and intellectual energies to the defence of their country, and have effected the elevation of Prussia and the re-birth of Germany.

The whole of the country's male youth does not, however, serve in the Army, partly because there is not sufficient room for all in the ranks, but unfortunately also, because a certain proportion is not fit to serve.

It is with the causes of physical unfitness that Dr. Bassenge's lecture deals.

The larger percentage of recruits physically fit to serve has always come from the country inhabitants. In 1871, 64 per cent. of the inhabitants lived in the country as against 36 per cent. in towns. In 1905, the percentage of the people living in the country had fallen to 42.5, while the percentage of those living in towns had increased to 57.5.

In 1909, there were 1,226,730 due to fulfil their military service; of these, 550,326 were finally dealt with. The number found fit to service in the active Army was 294,711, equal to 53.55 per cent. The country inhabitants showed a percentage of 57.9 physically fit, while among town dwellers the percentage was only 49.01. The larger the town the poorer the physique of the recruits, Berlin being the worst of all; on the 1st December, 1906, there were only 8,565 Berliners actually serving, or 13,156 short of the proper number. The actual number of physically fit recruits is steadily increasing. In 1906, there were 1,037,919 boys born in Germany, and it is reasonable to expect that in 1926 700,000 of these will be living. If only 50 per cent. of them are fit, this would leave 350,000 recruits fit for service; or, if the establishment of the Army is not meanwhile increased, some 75,000 more than are wanted for the annual contingent.

Nicolai and Schwiening made a special investigation of the physique of one-year volunteers. Among 52,650, the percentage of fitness was 65; among those studying agriculture, forestry, and allied subjects, 83.4 per cent. were found fit; whereas among the gymnasts, only 62.2 per cent. were fit. The causes of unfitness were poor physique, diseases of the heart, and defective vision. Out of every 100 gymnasts, 37 were suffering from defective vision, and for each short-sighted soldier there were 11 short-sighted one-year volunteers.

TRAINING OF YOUTH FOR MILITARY SERVICE.—The great majority of youths leave school between 13 and 14 years of age, and immediately take up some trade. The principal growth of the heart and lungs, as also of the body, generally takes place between the 14th and 18th years of life. During this period, most of the youths are engaged in earning their living, and, frequently, under somewhat unhygienic conditions.

The general mortality ratio has steadily declined in Germany from 29 per 1,000 living inhabitants in 1870 to 19 per 1,000 in 1907. The death-rate among infants under 1 year of age has not de-

creased, and still remains at about 20 per cent, of all children born. At the same time, the birth-rate is slowly falling; in 1879 it was 40.1 per 1,000 and in 1907 it had decreased to 33.2 per 1,000. The preservation of infant life is, therefore, of the greatest importance to the nation, and the subject is receiving earnest attention from public bodies and private associations.

Dr. Bassenge then proceeds to discuss school hygiene, and to show what is being done to maintain the health of the pupils during these years. Free gymnastics, marches, exercises with iron bars to represent a rifle, etc., are employed to improve the boys' physique. v. Schenkendorff in 1891 founded his association for the encouragement of national games; an offshoot of this association has been formed to encourage physical training with a view to maintaining the national fitness for military service. This association has introduced a number of games, and has provided many playing grounds for youths.

Organized walking tours for school boys have also become general. Each youth carries his own kit and cooking utensils, and sleeps at night in a barn.

The real trouble is to provide for the youth when he leaves school. Dr. Bassenge describes the organizations existing in other countries and shows that, apart from the German Turnvereinen, little has been done as yet in Germany to prevent physical deterioration taking place during the interval between leaving school and coming up for military service. To remedy this, he hopes to see societies spring up in all parts of Germany to encourage the culture of physical fitness.

Medical Section of the Royal Prussian War Ministry. Volume 49. Part II.—Nursing in War, with Special Reference to Lady Nurses. (Veröffentlichungen aus dem Gebiete des Militär-Sanitätswesens. Medizinisch-Abteilung König: Preuss: Kriegsministeriums. Heft 49. II. Krankenpflege, insbesondere weibliche Krankenpflege im Kriege). Lecture by Stabsarzt Dr. G. Schmidt. 8vo. Berlin, 1911.

In this lecture Dr. Schmidt briefly reviews the general medical organization of the Army in war, both at the front and on the lines of communication. He shows the numbers of female nurses which will be required in the latter area, and the duties which they will have to perform. He then enumerates the number of trained female nurses whose services can be counted on, and calls on the existing organizations for training nurses to make a serious effort to ensure that, in the event of war, the required number may be forthcoming.

Tactical Considerations for the Director of Medical Services of an Army. (Die operative und sanitätstaktische Tätigkeit des Armeefarztes). By Maximilian Ritter v. Hoen, Lieutenant-Colonel, General Staff, and Dr. Marian Szarewski, Regiments-arzt. 31 pp. 8vo. Vienna, 1910. Sfar. 1s. 9d.

This work gives a brief review of the duties which have to be carried out by the Director of Medical Services with an army in the field. Some useful points are given to guide him in arranging his scheme for the disposition of medical units in different military situations, but most of the book is devoted to the problem of collecting

and evacuating the sick and wounded. An appendix contains four diagrammatic maps showing the distribution of the medical units, and the routes by which the sick and wounded are evacuated when the army is on the march, during a period of non-activity, immediately before and after a battle.

Schematic and Diagrammatic Representation of the Austrian Medical Services in War. (Behelf zur Lösung von Aufgaben aus dem taktischen und operativen Sanitätsdienste im Rahmen von Armee, Korps und Division). By Maximillian Ritter v. Hoen, k. u. k. Oberstleutnant des Generalstabskorps, und Dr. Marian Szarewski.

This pamphlet, No. 130 of the "Militärärztliche Publikationen," gives the duties of a director of medical services of an army, and of an army medical officer of a division, during the period of concentration, during an advance, immediately before an action, and immediately after one. Their duties are first tabulated in four pages, merely giving the headings. There are four diagrams showing how the sick and wounded must be collected and evacuated in each of the circumstances. It is intended as a supplement to their previous publication on the same subject.

Organization of the Austrian Army. The Medical Service. (Einführung in das Heerwesen. 9 Heft. Das Sanitätswesen und das Veterinärwesen). By Otto Waldschütz, k. u. k. Hauptmann des Generalstabskorps. 175 pp. 8vo. Vienna, 1911. Beck & Sohn. 3s. 8d.

This, the ninth of the series of introductory manuals published by Captain Waldschütz, deals with the medical and veterinary services of the Austrian Army. The first section discusses the duties and organization of the medical services in general. The next section describes the organization and administration of the medical services in time of peace. The medical service in time of war is similarly dealt with in two sections. The sections "Orientierende Daten und Details" in peace and war give a great deal of useful information on personnel, equipment, and establishments. The figures given have been corrected to include all changes up to December, 1910.

Articles to be Provided by Voluntary Aid Associations. (Nachweis der Sanitätshilfsmittel, deren Sicherstellung oder Beschaffung im Frieden seitens der freiwilligen Krankenpflege, etc). (S. H. fr. K). By Generalarzt Dr. Werner. 29 pp. 8vo. Berlin, 1909. Trowitzsch & Sohn. 7d.

This little pamphlet has been prepared under the authority of the Prussian Ministry for War in order to furnish voluntary aid associations with a list of things which they should prepare and store during peace time for use on the outbreak of war.

The preface states that much money was wasted during the Franco-German War by enthusiastic persons purchasing unsuitable articles as gifts for sick and wounded; also that in the case of many articles the supply was excessive, while others were badly wanted.

The articles are shown in tabular form, which gives the number of each required for (a) a rest station capable of dealing with 50 patients requiring dressing, (b) a rest station with accommodation for the night for 50 patients, (c) an ambulance train for 320 patients, and (d) an ambulance barge for 30 patients.

ORGANIZATION AND ADMINISTRATION.

The Organization of Telephone Detachments, their Duties in Bivouac, on the March, and in Action. (Организация телефонной команды.)

By S. Agapov. 52 pp., with illustrations and diagrams. 8vo. St. Petersburg, 1911. Marks. 1s. 6d.

This little book is intended to supplement the instructions for the use of telephones contained in the Russian "Manual of Military Engineering for Officers of all Arms, 1910." Technical details of the apparatus are not dealt with, and the author confines himself to the consideration of the practical employment in the field of the material and personnel of a regimental telephone detachment. The method of laying cable is described, and various expedients for overcoming the difficulties of different kinds of ground are given. Several diagrams are provided to illustrate the tactical employment of the telephone with the regiment, on outpost duty, in action, on the march with an advanced guard, or in two columns on parallel roads. The descriptions are, however, rather short, and the book would be of greater value if this part had been expanded.

Mechanical Transport. (Traction Automobile). By J. Thys, Sub-intendant in the Belgian Army. 29 pp. 8vo. Brussels, 1910.

This brochure is a reprint of articles that appeared in "La Belgique Militaire." It contains a brief summary of the present supply system of the Belgian Army, followed by suggestions as to the best method of substituting mechanical for horse transport.

The system outlined by Monsieur Thys would effect the following economy in men, horses and wagons per division:—

	Men. Horses. Wagons		
Regimental transport	32	120	—
Supply column	28	99	7
„ park	58	140	18
	—	—	—
Total	118	359	25

POLITICAL.

The Far East. (Der Ferne Osten. III Teil). By Major-General C. von Zepelin. 224 pp. 8vo. Berlin, 1911. Zuchschwerdt. 6s.

The author has already published two works on Russia in the Far East. The present volume describes the Littoral Province (Primorsk). The first two chapters are devoted to the physical geography of this country. The administrative system, the military forces, and their stations, are next described in detail. In an interesting chapter on the population, the deplorable story is related of the settlement of the Ussuri Cossacks and the hardships endured by the peasant emigrants. The "Yellow Question" is carefully examined, and it is shown that, in spite of all her efforts, Russia has made but little progress in her efforts to Russianize the provinces in the Far East. The Russian settler appears to be dependent upon Chinese or Korean labour for almost all his necessities, and it is urged that even the construction of the Amur Railway, notwithstanding all its importation of Russian labour, will merely serve to augment the numbers of Chinese for whom employment will be found in the country. The author considers that the satisfactory solution for Russia of this Yellow question will depend upon her capacity to settle a large Rus-

sian population in her Far Eastern territories. Further chapters deal with the trade, industries, communications, and the sanitary aspect of the Littoral Province. A plan of Vladivostok and a description of the fortifications furnish a conclusion to a valuable work of reference.

The French Naval Forces in Crete. (*La Marine Française en Crète*).

By Lieutenant H. de la Martinière. 275 pp. 8vo. Paris, 1911. Chapelot. 5s.

This book, though written under the title of the "French Naval Forces in Crete," gives in reality a full and detailed history of all the main events in that island from the period of intervention by the protecting Powers in 1896 to the flag incident of 1909, after the island had been evacuated by international troops.

Though Cretan affairs have been tolerably quiet during the current year, the question of the final status of the island is even now by no means settled, and M. Martinière's book contains in the last chapter an accurate summary of the various difficulties with which the protecting Powers are still confronted, and which, in one form or another, come to the front from time to time.

India and Tibet. By Sir Francis Younghusband, K.C.I.E. 455 pp., with maps, index, and numerous illustrations. 8vo. London, 1910. Murray. £1 1s.

Sir Francis Younghusband, the leader of the Tibet Mission of 1904, has compiled an exhaustive and interesting history, covering a period of over 137 years, of the repeated attempts made by the Government of India to establish "neighbourly intercourse" with Tibet. In addition to the political and geographical information which it contains, the book offers much that is of value to the military reader.

Although the road to Lhasa was not opened without fighting, it was in combating the climatic and topographical difficulties encountered on the march that the qualities of the troops were put to the severest test, and Sir Francis, himself a soldier, pays a generous tribute to the manner in which the military operations, which culminated in the occupation of Lhasa, were carried out. Although the chapters devoted to this portion of the subject necessarily supply the main interest of the book to the military reader, there is much for the soldier to learn from the political history of Anglo-Tibetan and Anglo-Chinese relationship, for there is sometimes a tendency on the part of the soldier to underestimate the difficulties which beset the path of the political officer, and to chafe at the delays imposed upon the military operations by the exigencies of the political situation. The work also introduces a new category of questions regarding the defence of India. Hitherto, the North-West frontier has absorbed the interest and attention of the majority of soldiers. Sir Francis Younghusband's book should ensure a share of the attention being henceforth directed to the North-Eastern Frontier, where problems of great and growing interest await the student of Imperial strategy.

Nauticus, 1911. Annual of German Interests at Sea. (*Jahrbuch für Deutschlands Seeinteressen*). By Nauticus. 668 pp., with index, 22 photographs, 55 diagrams, and 1 map. 8vo. Berlin, 1911. Mittler. 5s 6.

This is the thirteenth number of this comprehensive Naval

annual, and is, as usual, divided into three parts: I. Political and Military. II. Commercial and Technical. III. Statistical.

Diplomatic Documents for Students of the Morocco Question. (Documents diplomatiques pour service à l'étude de la question Marocaine). By Professor Rouard de Card. 159 pp., with 2 maps. 8vo. Paris, 1911. Pedone. 4s. 2d.

The author of this work is a Professor at the University of Toulouse, and is a recognized authority on international law. The book is divided into three sections: the first contains treaties made by France with Morocco; the second, treaties made between France and other countries on the subject of Morocco; the third contains the terms of the Madrid Convention of 1880, and of the Algeciras Conference of 1906. At this moment, when the Moroccan question is so important a factor in international politics, Professor de Card's book forms a very useful work of reference.

The Algero-Moroccan Borderland. (Les Confins Algéro-Marocains). By Professor Augustin Bernard. 420 pp., with 5 maps and numerous photographs. 8vo. Paris, 1911. Larose. 10s.

Professor Bernard has already published nine works on Algeria and Morocco. His latest book is the result of six years' study, during which he undertook several journeys through the Algero-Moroccan borderland. The personality of the author, and the fact that the book has been published under the patronage of Monsieur Jonnart, late Governor-General of Algeria, make it of exceptional value as a work of reference.

The first part of the book contains a description of the country from the geographical point of view, with a short account of its inhabitants and their method of government.

In the second part, the course of the French penetration into the region is traced from 1830 to 1910, the political and economical results being treated in considerable detail. This portion of the book is of deep interest at this moment, and Professor Bernard's description of the policy pursued by General Lyautey, and the gallant and able soldier-administrators who acted as his subordinates, should appeal particularly to British officers.

The book, in addition to being instructive, is eminently readable. A perhaps unique piece of literature is to be found in Appendix 6, which contains a series of helio and lamp messages sent by a subaltern who, with 75 men, was being attacked in a block-house by 20,000 Moors, but still contrived to correct the fire of some mountain gunners who were endeavouring to assist him from a neighbouring redoubt.

The photographs are excellent; the maps clear.

STRATEGY AND TACTICS.

War in Africa. Summary of the Field Service Regulations. (Guerre d'Afrique. Guide-annexe des règlements sur le service en campagne). By Lieutenant-Colonel R. J. Frisch. 183 pp. 12mo. Paris, 1908. Lavauzelle. 1s. 10d.

Lieutenant-Colonel Frisch acted as assistant Chief of the Staff to General d'Amade, and has had a wide experience of African warfare in Algeria, Morocco, and the Sahara.

His little book was designed for the use of officers on active service in Africa, and, consequently, everything non-essential has been eliminated. Innumerable useful hints may be obtained from it concerning fighting in Morocco, especially as regards the difference in the fighting methods of the Arabs and the Berbers, the best methods of protection to be adopted, and the most suitable march distribution of a column.

Studies of War. (*Etudes sur la Guerre*). By Lieutenant-Colonel Montaigne. 351 pp. 8vo. Paris, 1911. Berger Levrault. 6s. 8d.

Colonel Montaigne's book is a study of the psychological side of war, the first 100 pages of which are filled with a dissertation on "fear."

The most interesting portion of the book is that on "the present day doctrines on the combat," in which the French and German schools of thought are compared. Colonel Montaigne considers that the French doctrine is faulty from a psychological point of view, and that the different French regulations are mutually contradictory.

Tactics of Small Detachments. (*Opérations Coloniales. Tactique des petits détachements*). Volume II. China and Indo-China. By Captain G. Prokos, French Colonial Infantry. 171 pp., with a number of sketches in the text. 8vo. Paris, 1911. Lavauzelle. 3s. 4d.

This is the second volume of Captain Prokos' work, entitled "Colonial Operations." The first volume dealt with the work of small detachments operating in Morocco and West Africa against the Moors, Sudanese, Tuareg, and other warlike peoples. The volume under notice has a cordial introduction from the pen of General Gallieni, well known as a very successful Governor-General of Madagascar, and at present a member of the Conseil Supérieur de la Guerre. It deals with the operations of small detachments in Indo-China and China against wandering bands of Annamites, Chinese, and Cambodians, as well as against guerillas in the pay of the Celestial Empire.

The author takes as his typical detachment a force consisting of about 200 European infantry, 250 native infantry, a section of artillery, one or two machine guns, 10 or 20 cavalry or mounted infantry, and about 30 armed native auxiliaries, together with 200 coolies and 20 pack mules.

Captain Prokos illustrates the principles which he lays down by means of examples based on incidents which have actually come under his notice. It is pointed out by him that, as regards its physical features, Indo-China may be divided into three distinct zones, namely:—

- (a) The Delta country near the coast, with its network of swamps, rice fields, irrigation channels, etc.
- (b) Further inland, an undulating and very wooded tract of what may almost be called "bush" country.
- (c) The inhospitable mountainous region near the Chinese frontier.

The operations of a small detachment working in each of these zones are considered separately. In each case the author gives his views as to how intelligence work should be carried on, how

the detachment should be fed, how it should march, what precautions it should take when marching and when halted, and, finally, how it should fight under various conditions.

The book is interesting as a résumé of the views of an officer who has certainly seen much service in French Indo-China, but it is doubtful whether many British officers, and especially those who have served in Burma, and on the North-West Frontier of India, will find anything very original in it.

TELEGRAPHS AND COMMUNICATION.

Technical Means of Communication in War. (Die Verkehrs- und Nachrichtenmittel im Kriege). By H. Thurn. 278 pp., with index, and 32 illustrations and diagrams. 8vo. Leipzig, 1911. J. A. Barth. 6s.

The author, who is a Post Office official, states in his preface that his object in writing this book is to demonstrate the necessity for the existence in peace of a well-trained corps of communication troops.

The work is divided into twelve chapters and an appendix. Each chapter deals with a separate subject in a semi-technical manner, the headings being as follows: Waterways, roads, and lines of communication; railways; motor vehicles; cycles; aeronautics; pigeon post; photography in connection with balloons and carrier pigeons; state telegraphy; field telegraphy; optical telegraphy; wireless telegraphy; field postal service. The appendix deals with orderlies on snow-shoes and ski, the war dog, comparison of the strengths of the communication troops in various armies, and gives a list of works of reference.

The subjects are dealt with in an interesting manner and not too technically, so that it is possible for the non-expert reader to gain a very clear idea of the various means of communication, their advantages and their limitations.

TRAINING AND EDUCATION.

Field Firing by Night. (Feldmässiges Schiessen bei Nacht). By Colonel Olto Kleszky, Austro-Hungarian Army. 48 pp., with 11 photographs. 8vo. Wien, 1911. Seidel & Sohn. 1s. 3d.

This brochure gives an account of a night field firing scheme carried out in the vicinity of Neusatz by one infantry battalion, one machine-gun detachment, one section field artillery, and two field searchlight detachments, all of the Austro-Hungarian Army. It is claimed by the author that the successful execution of this scheme marks a new departure in the training of European armies. Of the two searchlight detachments, one had a dynamo-driven light of 60-million candle power, giving a range of 2 to 2½ miles; the other detachment had a light with a 35 cm. reflector, worked by a benzine motor, giving a range of 5 furlongs.

The exercise took the form of an attack over hilly and difficult country upon a position containing 900 dummies in three groups. Ball cartridge was fired by the machine-gun detachment and infantry, blank ammunition by the artillery. Communication during the attack was maintained by means of telephones and signalling. There was no hitch in the proceedings, and the account given of the arrangements made, and the difficulties experienced, is clear and instructive.

The battalion had previously undergone a course of instruction in night firing carried out with miniature ammunition and acetylene lights. To this, the good results obtained are, in the author's opinion, largely attributable. The book is well illustrated, and the plans are clear and easy to follow.

Gymnastic Training. (Наставление для обученія войскъ гимнастикѣ.)

Official Manual. 234 pp., with numerous illustrations. 12mo. St. Petersburg, 1910. 10d.

This manual was issued with Army Order 622 of the 17th November, 1910, to replace the "Instructions in Field Gymnastics, 1880." It is founded upon the practical experience of the course of gymnastics undergone by the troops of the St. Petersburg Military District in the last three years. It treats of physical drill with and without arms, exercises on the parallel and horizontal bars, on the horse, and on the horse with handles, in jumping and pole jumping. Exercises in marching, running, breathing, and field gymnastics (i.e., practice in surmounting obstacles) are compulsory for infantry only. An elementary treatise on anatomy is included to enable the officer instructor to understand the functions of the various muscles of the human body.

TRAVEL AND TOPOGRAPHY.

Burma: A Handbook of Practical Information. By Sir J. George Scott. 459 pp., with 1 map, index, 3 appendices, and numerous photographs. 8vo. London, 1911. Alexander Moring, Ltd. 10s. 6d.

This pithy and self-contained book, well illustrated with 63 photographs, is a fund of trustworthy and up-to-date information likely to be valuable to anyone visiting or interested in Burma.

It contains useful military information regarding the peoples and history of Burma, and as to the country, its communications, and means of transport.

It is divided into seven parts as follows:—

I.—The country and climate; fauna; flora; geology; peoples.

II.—Government; administration; education; history.

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VII.—Hints to visitors and new residents.

The appendices show the districts of Burma and the Shan States, and give a list of common beasts, birds, etc.; trees, etc.; and minerals; together with a useful bibliography.

MISCELLANEOUS.

The Kingdom of Montenegro. (Le Royaume de Monténégro). By M. C. Verlopp. 99 pp. 8vo. Paris, 1911. Berger-Levrault. 2s. 6d.

This short book is divided into 11 chapters, in the first of which the physical aspect of the country is described, and in the second chapter is traced the eventful history of the small kingdom from 380 B.C.—in which year the Celts drove out the Illyrians and founded the Celtic Empire in the Western Balkan lands—to the present day.

The manners and customs of the Montenegrins are then dealt with, the general indifference to the destruction of human life being clearly brought out. A description follows of the chief towns, of which Cetinje, Podgoritsa, and Nikschich are the principal.

Subsequent chapters deal with the budget and finances of the kingdom, the present stage of civilization, and cultivation of the inhabitants and their mode of government. In the chapter on the Army, particular stress is laid on the military spirit of the people, and the great military value of the forces which universal service places at the disposal of the country for war.

After a short review of Montenegrin commerce, industries, and agriculture, the principal personalities of the country are described, and the book concludes with a forecast of the future, in which attention is drawn to the gradual but steady depopulation of the country.

The Star Pocket Book. By R. Weatherhead, R.N., 80 pp. 12mo. London, 1911. Longmans, Green & Co. 1s. 6d.

The "Star Pocket Book" is, as its author tells, based on lectures which he gave to some officers going through an Intelligence course. As an introduction to the study of astronomy for the use of officers who have an inclination in that direction, or who wish to be able to distinguish the principal stars, this book should prove of considerable value. It is expressed in clear and simple language, contains no technicalities, and is enriched with a large number of good diagrams. It has the additional advantage of being handy and cheap.

Shans at Home. By Mrs. Leslie Milne. History and literature by Mr. Cochrane. 282 pp., with index, and many illustrations. 8vo. London, 1910. John Murray. 15s.

This work gives a readable and interesting account of the life, characteristics, customs, and surroundings of the inhabitants of the Northern Shan States on the Burma-China border.

It is divided into 18 chapters, and is well illustrated.

Diary of an Enlisted Man. By Lawrence Van Alstyne. 348 pp. 8vo. New Haven, Conn., 1910. The Tuttle, Morehouse and Taylor Company.

The author served two years in the Federal Army from August, 1862, to August, 1864. Almost all that period was passed in the Gulf Department under the command of General Banks. He took part in the siege of Port Hudson and the Red River Expedition. His personal observation led him to form a very low estimate of General Banks' military ability. He asserts that Port Hudson might have been taken at any time that the Federal commander chose to make the effort.

Mr. Van Alstyne's first year of service was in the ranks of a newly enrolled New York infantry regiment. On the 1st September, 1863, he was commissioned second lieutenant, and employed at first in raising recruits for coloured regiments. He made the Red River campaign with the 90th Coloured Regiment, and retired from the service when that regiment was "mustered out."

His book is simply a reproduction of a diary written from day to day during his war service, and sent home at intervals in the place of letters. It disclaims any intention of dealing with those

subjects which form the material of history, nor does it contain anything of special interest to the military student, but it has the freshness of a record of events made on the spot, and the general reader will find in its pages a good deal that is both amusing and interesting. Mr. Van Alstyne's painful experience enables him to speak feelingly of sending troops on a long sea voyage in a vessel in an insanitary condition.

Guide for the Use of Officers Employed with the Camel Corps in the Military Territory of the Niger. (Guide de l'Officier méhariste au territoire militaire du Niger). Written under the direction of the Commandant of the Niger Territory by Captain Bouchez, of the French Colonial Infantry. 307 pp. 8vo. Paris, 1910. Larose. 4s. 2d.

Some idea of the amount of work which falls to the lot of the "méharistes," or men belonging to the Camel Corps in West Africa, may be gathered from the fact that the province of Upper Senegal, Niger, has a Saharan frontier of 2,500 miles, the protection of which is assigned to 500 "méharistes." The natives from whom the Camel Corps is recruited are remarkable for the extraordinary way in which they can find their way about the desert, for the manner in which they can endure thirst, and for their intimate knowledge of the camel. The author of this volume has collated the experiences of a large number of officers who have served in the Camel Corps for the benefit of others who may be freshly appointed to this corps. The book is divided into two parts. The first part deals with the history and object of camel corps, and the qualifications necessary in the officer, the man, and the camel, if they are to be any use in a camel corps. The second part is devoted to a consideration of the constitution, instruction, and tactical employment of a camel detachment, and also contains some valuable hints as to the care of camels and their treatment when suffering from various diseases.

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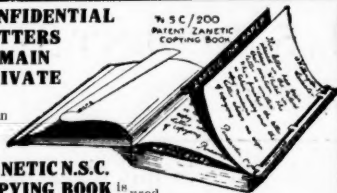
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